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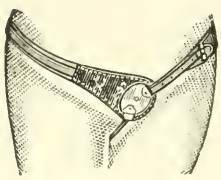

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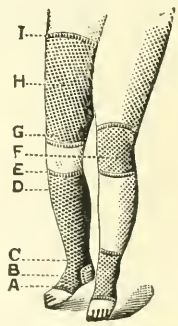

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A REVIEW OF THE THEORIES AND FACTS UNDERLYING THE TREATMENT OF DISEASE BY SOURED MILK CULTURES.*

By Clement A. Penrose, M.D.

INTRODUCTION.

Probably every physician in the world uses occasionally soured milk (buttermilk), or its equivalent, in the treatment of his fellow-men. The majority, like myself, have had very little knowledge of the theories underlying such usage or the clinical evidence supporting it, other than was obtained from various circulars accompanying different soured milk products on the market, and what they have read in popular articles. There is, however, an immense literature on this subject by many writers of more or less repute. This goes far back into medical history, and continues down to the present time.

Realizing that the only way to acquire a real knowledge of a subject is to work it up, I started some months ago on this task and have tried to write a condensed, or rather a composite opinion, of the many writers whose works have been reviewed, separating the wheat from the chaff as well as possible. I have subordinated personal opinions to those of the majority, as far as I could. The subject is a most exhaustive one and the data in many ways was very incomplete. I trust that this exposition of the whole question will help others as much as it has helped me.

While the human body in its evolution has gradually fortified itself against a host of protein poisons, portions of it have become more or less inert with the loss of one or more valuable functions. Who can say what the ultimate outcome of this warfare will be which the human being is waging perpetually with his environment. In any event, it is most important that we conserve the energies of the already overstimulated organism, and protect it as much as possible from fresh invasion.

*Read before the Baltimore City Medical Society, January 8, 1915.

HISTORICAL.

London M. Doughlas (*Bacillus of Long Life*, 1911) shows that milk was used as a diet probably in the Paleolithic and Neolithic ages, evidenced by the fossil remains of domesticated animals. The Scythians, long before the Christian era, used fermented milk.

According to Vedas butter was manufactured in India fifteen hundred years B. C. The Hindus call soured milk "Dadhi."

Koumiss, another soured milk preparation, derives its name from a tribe, mentioned by Xenophon and Pliny, the Kumanen. The Tartars in 1215 adopted this drink, from whom it eventually spread to the neighboring races, Turkomanen, Mongolians, etc.

Marco Polo, the celebrated traveler, speaks of a milk-wine "Chumis," used among the Tartars.

Koumiss was referred to in the twelfth century in the Ipatof (or Ipatiev) Chronicles, written by a Monk Nestor in the Ipatiev Monastery, in the town of Kastroma, Russia.

William De Rubruquis, a French missionary, describes it in the thirteenth century during his travels in Tartary.

In 1784 Dr. John Grieve, a surgeon in the Russian army, reported its use to the Royal Society of Edinburgh.

Dr. L. Carrick, in 1881, wrote a book on kommiss and its uses in pulmonary consumption.

Clarke described koumiss in his book, "Clarke's Travels, 1810."

On the steppes of Southern Russia and Asia a soured milk kommiss is made from mares' milk, the use of which, owing to its reputation as a cure for diseases of the lungs, has spread to Russia, Austria and Germany. The best kommiss today is made in the Province of Orenburg (Russia).

Among the Hebrews milk was used as a food, but excluded from presentation at the altar, because it soured so readily. In the East, soured milk is used almost exclusively, except that of the camel, which the Bedouin does not consider derogatory to the character of a man to milk, as he does in the case of a cow or sheep. The fresh camel's milk is very rich and pleasant to the taste. The soured milk of goats and sheep is called "Leben;" by some Arabian tribes "Sheneena."

Cattle are not owned by the best types of Bedouins, who look down upon those who cultivate their land, and so only use the milk of sheep and goats. This is always soured, probably due to the difficulty of transportation, the heat, and being contained in unclean skins. Their favorite dish consists of dates fried in "Leben" or butter. Dried soured milk is used by the Arabs, who mix it with a little water and this is known as "Meeresy." The Laplander uses soured milk obtained from the reindeer, mixed with cranberries and frozen hard in the paunch of the reindeer. This is cut up with a hatchet and served usually at the midday meal.

The Mohammedan tribes of the Caucasus soured their milk with keffir grains, golden yellow flakes or nodules about the size of a small bean. They claim divine origin for these grains, the

manufacture of which is surrounded with considerable mysticism. In reality these grains are formed in stale milk cultures and can be used with some care, after careful drying, over and over again. The resulting product is called Keffir or Kephir. Among the Armenians, in Western Asia, a drink of soured milk is made called Matzoon, which is similar to Keffir.

The wild tribes of Siberia and Tartary prepare from milk a strong alcoholic beverage containing 8 per cent. of alcohol, called "Araka" or "Ojran."

In the Balkan Mountains a soured milk is made called "Urgoutnik," which is like "Yoghourt."

Several authorities, such as Grundzach (*Zeitschrift fur Klin. Medicine*, p. 70, 1893), and Schmidtz (*Zeitschrift fur Physiologische Chemie*, Vol. XIX, 19, 1807), and Singer (*Therapeutische Monatshefte*, p. 441, 1901), showed many years ago that lactic acid and the conjugated ethereal sulphates decreased intestinal putrefaction.

Professor Elie Metschinikoff, of the Pasteur Institute, in Paris, deserves the credit of having first insisted upon the importance of introducing microbes into the human intestine as a curative agent for the purpose of converting their carbohydrate contents into lactic acid and thus bringing about a diminished putrefaction. (*Revue Scientifique*, Vol. XI, p. 103, 1904.)

It is stated that his attention was drawn to this line of work by the fact that Bulgaria, about this time, boasted of having more people who had reached one hundred years or over than any other nation in the world—3,800 persons out of a population of 7,000,000 inhabitants—while Germany could only show 71 out of a population of 61,000,000. On investigation it was found that the diet of these people consisted chiefly of a soured milk, ("Yoghourt" or "Jogurth") and rye bread. (*Promulgation of Life*, 1905.) The culture from which this soured milk was made was called "Bulgarian Maya" or "Maeja," and contained three types of bacilli. The most efficacious as far as the production of lactic acid is concerned was the "Maya" or "Maeja Bacillus," our Bulgarian bacillus ("Type A").

A scientific study of the majority of these soured milks show the presence of the Bacillus Bulgaricus. The Armenian "Matzoon," "Mazun" or "Zoolack" contains usually "Type B" (a weaker acid producer) predominating, while "Koumiss" is formed chiefly by the action of certain yeasts.

They all are contaminated with other bacteria, yeasts and fungi, these latter being able often to split up proteids and produce putrefactive and toxic substances. This shows the advantage of using in the treatment of human beings pure, uncontaminated cultures.

Clarke in his travels describes most graphically the dirty methods employed by the Kalmucks in making "Rack," a distilled milk beverage, in a way which would turn any western stomach. This applies probably to the methods of most of these wild tribes. It is possible that the inhibitory action of the lactic acid bacilli and

their products is the chief obstacle to the development of disease germs in this milk, which might cause severe epidemics of various intestinal disorders.

"AUTO-INTOXICATION."

The word "Intoxication" was associated for many years in the minds of the laity only with alcoholism. More recently we have come to recognize, due to modern medical progress, that this term can be properly applied to a host of conditions, which, both directly and indirectly, affect the welfare of the human organism. For many centuries the effects of poisonous material, introduced from the outside, have been noted and classified. It is only in recent years that a real scientific study has been made of those poisons normally, or abnormally, produced in the body itself under the varying conditions of health and disease. To such phenomena the name "Auto-Intoxication," (autos meaning "self" in Greek), or self-poisoning has been given. At first this term was so vaguely applied by the medical profession at large that, like that of malaria, it was often used to cover up a questionable diagnosis. Its use, therefore, for a time fell into considerable disrepute. As in the case of malaria, however, after the plasmodum of this disease could so readily be demonstrated "Auto-Intoxication" has in late years become a well-recognized condition, because many of the elements giving rise to it are now understood and can be adequately treated.

It is probable that a great number of well-known constitutional diseases, such as gout, diabetes, arthritis, arteriosclerosis (arterial hardening), and possibly old age itself, owe their origin in many instances, if not all, to such poisoning of the system. It is now known that some of these toxic products stimulate, while others inhibit the action of glands like the thyroid, adrenals, pituitary, pancreas, etc., concerned in the all-important function of internal secretion, which is so engrossing the attention of the medical world today. Their well-known effects on the arteries, joints, bones, muscles and organs are now being discussed in every medical journal.

The term "Auto-Intoxication" then embraces a broad and fascinating subject, taking within its scope one of the widest fields of medical research and including in its pathology almost every portion of the body.

The alimentary canal is probably most concerned in the question of "Auto-Intoxication," due to the very nature of its functions. We have adjacent to it so many portals of entry for disease germs, beginning with the teeth, the tonsils and the communicating sinuses and air passages, etc. The fact of our taking in so many bacteria with foodstuffs is evident. These, though admitted innocently enough, may readily multiply and give rise to poisons having the most serious direct or remote effects.

"INTESTINAL AUTO-INTOXICATION."

It has been shown by careful investigators that "Intestinal Auto-Intoxication" is either the result of toxic compounds developed from abnormal digestion, or toxines produced within the intestines by the abnormal action of certain bacteria. Both these factors may be complicated, and usually are, by faulty elimination, as for instance, constipation, urinary defects, etc. The stomach and upper part of the small intestine seldom, if ever, produce toxines due to the abnormal action of bacteria. These poisonous products are due to abnormal digestion, which gives rise to such chemical substances as B., Oxybutyric and Diacetic Acids with Acetonuria, arising from the poor digestion of fats and proteids, while oxaluria indicates probably faulty digestion of the carbohydrates.

Vaughan and others have shown that certain normal products of digestion may under some circumstances be split up into a harmless substance and one which is very poisonous.

In the small intestines excessive fermentation giving rise to hydrogen sulphid eructation or excessive lactic acid is more common than putrefaction.

Prompt absorption in the small intestine of the products of digestion prevents to a great extent putrefaction in the large, where the products due to bacterial growth are chiefly formed and absorbed. Cathartics, which act imperfectly and hurry food simply through the small intestine into the large without thoroughly emptying the latter, are dangerous, as they give the bacteria in this locality more nutrient media in which to develop. Disease bacteria are occasionally present in the intestines of healthy persons. Certain cases of ptomaine poisoning are due more to the fault of the digestive tract than the food eaten, and will follow sometimes on a moderate meal of proteid food.

The large intestine once had probably two important functions. It served as a reservoir for food and controlled the loss of water from the system. As modern man generally gets all he desires to eat and drink, these functions are to a great extent lessened. The large intestine, according to a number of eminent surgeons, can be entirely removed without affecting the organism very seriously.

BACTERIA NORMALLY FOUND IN THE INTESTINAL TRACT.

The following bacteria, having adapted themselves to the secretions of this portion of the body, are normally found in the intestinal tract:

Bacillus lactis aerogenes, predominating chiefly above the ileo-caecal valve, and possessing great fermentative powers.

The bacillus coli communis, predominating chiefly below the ileo-caecal valve, having great putrefactive powers and the ability to inhibit the growth of other organisms, either by its own overgrowth or the production of anti-bacterial bodies, which in time will kill itself.

The bacillus bifidus, found in both the small and large intestines, but chiefly in the large. This latter organism is the principal inhabitant normally of the intestinal tract of nurselings and possess but little inhibitory power over other bacteria, except the anaerobic forms. A fair number of the bacilli coli communis, bacilli lactis aerogenes, bacilli acidophilus, bacilli aerogenes capsulatus (not constant, but rather rare), and a few intestinal streptococci are also found in infant stools.

The bacillus bifidus is found in three forms, according as we meet them in the fæces or in culture media:

(1) a plain bacillary form.

(2) A bifid form (with a bifurcated extremity).

(3) A cephalated (knobbed or headlet form).

Unlike the bacillus coli communis, it is gram-positive.

INJURIOUS BACTERIA MOST FREQUENTLY INFECTING THE INTESTINAL TRACT.

The injurious bacteria most commonly taken into the intestinal tract with food, etc., are such well-known forms as—

Pyrogenic streptococci and staphylococci.

Typhoid bacilli.

Para-typhoid bacilli.

Various dysenteric bacilli—shiga bacillus, flexner bacillus, cholera bacillus, etc.

Proteus vulgaris.

Certain spore-bearing anaerobes—bacillus purificus, bacillus aerogenes capsulatus, bacillus botulinus.

All putrefactive bacteria grow best in a neutral media and are restrained in their growth by any acid.

Aerobes or facultative anaerobes (organisms living best when they can obtain oxygen, but able to do without it), like the streptococci pyogenes, the bacillus lactis aerogenes and the bacillus coli communis, cannot decompose native proteid, which is easily decomposed by strict anaerobes (bacteria not able to live in the presence of oxygen), such as the bacillus putreficus, the bacillus maligni oedemitis and the bacillus anthracis symptomatici.

The facultative anaerobes, however, can often attack the albumoses and peptones formed by the anaerobes, and thus enter into symbiotic action with them. Anaerobes can stand some oxygen if living in the presence of aerobes, who, according to Pasteur, divert the oxygen from them.

The small intestine in man contains a little oxygen, the large intestine seldom any.

According to Cushing and Livingood (Contributions to the Science of Medicine by the pupils of William Welsh, p. 543, 1900), the duodenum and jejunum contain only a few bacteria, and they are not usually of a kind that produce putrefaction or pathogenic effects. This is probably due to the effect of the stomach juices and the rapid passage of chyme through this portion of the intestines.

Bacteria accumulate greatly in the ileum within a foot of the colon, due probably to the obstructive action of the ileo-cæcal valve. In this portion of the ileum, although not containing as great a number of bacteria as are found in the ascending colon, we find the greatest variety. The putrefactive anaerobes multiply here, especially when a pathological state exists, whereas, in ideal health, only a few are found in this region.

The large intestine is crowded with bacteria, having here the best conditions for anaerobic growth, but the number of living bacteria decrease as we approach the rectum, where they are mostly dead.

Without discussing the number of acute infections of the digestive tract such as typhoid fever, dysentery, etc., it would be interesting to go over briefly certain types of chronic excessive intestinal putrefaction, which are commonly met with among adults and children.

These types of chronic excessive intestinal putrefaction vary from simple cases of headache and indigestion, with mental irritability and a state of chronic fatigue, to those with great mental depression, considerable loss of strength and weight, with occasional acute attacks like ptomaine poisoning and evident degenerations of various vital organs.

In children we find great retardation of growth, large bellies, with excessive sweating of the head and alternating constipation and diarrhœa, etc.

In adults the loss of general vigor is usually associated with a corresponding loss in sexual power, as inability to concentrate or carry out any sustained effort, with indications of premature senility, evidenced by an atrophy of the subcutaneous fat, wrinkling of the skin, etc. Grave anemias are quite common in these cases, due to destruction of the red blood cells by certain hemolytic (blood-destroying) poisons, which are absorbed from the intestinal tract.

In advanced cases we find considerable desquamation of the epithelium of the mouth, tongue and intestines, evidenced in the stools, which may contain numerous gas bubbles, and which vary considerably in color and consistency. There has been an effort by different authors to classify different types, according as one or more species of organism was found predominating. As, however, the intestinal bacteria occur in so many combinations, and the question of predominance depends so much on our ability to cultivate them, such a classification from this standpoint would, therefore, at the present time seem to be rather an arbitrary one.

Bacterial activity produces many chemical substances, compounds with oxalic acid, butyric, propionic and other higher fatty acids, lactic and acetic acids, acetone, etc., also many basic substances, ammonia, methylamine, cholin, neurin (both quite toxic), sulphur compounds, including hydrogen sulphide and probably various mercaptans (or sulphur alcohols). From the breaking down of the proteid molecule, indol, skatol, phenol, cresol and a

number of toxic substances like putrescin, cadaverin, etc., etc. All these have certain influences upon the human organism, many of which are most harmful when they are absorbed in sufficient quantities.

The degree of intestinal auto-intoxication is difficult to determine empirically and rests chiefly on clinical data. The estimation of indol in the fæces by Ehrlich's reagent (Dimethylamidobenzaldehyde) gives only a fair indication from the intensity of the cherry red color formed as to the degree of putrefaction going on in the intestinal tract. The tests for indican and the ethereal sulphates in the urine are also a help in many cases. Unfortunately, some patients with the most decided toxic symptoms do not give such tests, which are, therefore, by no means conclusive. Patients subjected to these poisonous products after a time become chronically invalided and their lives frequently shortened by the development of some chronic organic trouble. They are cases which the ordinary medical methods have succeeded very little in ameliorating. Usually the general practitioner has to deal with the damage already done. It is only by preventative measures that we can hope to ward off the many injurious results of such intestinal conditions. The actue infections, like typhoid, dysentery, etc., are so apparent in their manifestations that they can scarcely be overlooked. These chronic infections are so insidious in their onset that they often pass by unnoticed until it is too late for any remedy. The early recognition of these chronic intestinal infections is, therefore, most essential; better yet would be the education of the community in a more proper regime of health and diet, etc. The danger of them developing would then be reduced to a minimum.

There is a growing opinion among medical men that probably no conditions are so detrimental to the welfare of the human race as these obscure intestinal disorders. Overwork, overstrain, overindulgence, overeating and drinking, the types of food used (high seasoning, etc.), in fact, the whole trend of modern civilization are conducive to their development. The average age of the human being could probably be considerably prolonged if the degenerative effects of such infections could be prevented or even mitigated.

INFLUENCE OF DIET ON THE INTESTINAL FLORA.

The number and kinds of bacteria in the intestinal tract are greatly influenced by the diet. A meat diet unquestionably increases the number of anaerobic bacteria (putrefactive gram-positive bacteria) in the intestinal tract. Fresh meat (i. e., animal tissue) and even cooked meats have a much greater reducing power (ability to take up oxygen) than vegetable cells, evidenced by the reduction of methylene blue into leucomethylene blue. This reducing power of the meat in the upper intestinal tract probably favors the anaerobic, putrefactive bacteria in the lower intestinal tract of carnivora and large meat eaters.

A sterile diet limits the intestinal flora to almost pure cultures

of the colon bacillus and the bacillus lactis aerogenes. On the other hand, under certain conditions the gram-negative bacteria can be replaced almost entirely by the gram-positive bacteria (or acidophile bacteria). Putrefactive bacteria grow best in a neutral media and are restrained by an acid media. In the intestines of herbivorous animals (plant eating), like the buffalo, goat, horse, elephant and camel, the gram-negative bacteria preponderate, in contradistinction to those found in the intestines of carnivora, where the gram-positive bacteria are in excess.

According to Herter, if milk (soured or otherwise) is taken in place of other food, the daily protein ration is lowered and we do not have as much putrefaction, which is dependent on the amount of protein taken. If added to the usual amount of food the protein ration may be increased. These are points to be considered when milk is substituted for food or added to the usual diet.

INFLUENCE OF CLIMATE ON INTESTINAL FLORA.

The climate probably affects the bacteria of the intestinal tract of animals only as far as the food eaten is concerned. In the warm, temperate and torrid zones bacterial life is more luxuriant, whereas in the frigid zone of Arctic region bacteria have less chances of living.

Levin ("*Baktcriologische Darmuntersuchungen*," Skandinavisches Archiv. f. Physiol. XVI, p. 249, 1904) observes that polar bears and other animals of the Arctic region may have no bacteria in the digestive tract.

The parrot, although living in warm regions, has very few bacteria in its intestines, this fact probably being due to the bacteriacidal properties of its intestinal juices.

THE USES OF BACTERIA IN THE INTESTINAL TRACT.

From experiments it is fairly conclusive that intestinal bacteria are not necessary for the ordinary digestive processes or normal nutrition. Under the usual conditions of living, however, a human being takes into the alimentary canal, with his food and drink, numbers of micro-organisms capable of doing much injury if they multiply in the digestive tract. The normal flora of the alimentary canal (i. e., bacillus lactis aerogenes, bacillus coli communis and bacillus bifidus), by virtue of their adaptation, are not ordinarily harmful to their host, but are capable under some circumstances of discouraging the growth of any harmful species which the human being may admit into his intestines. The real role of the obligate intestinal bacteria probably lies in their abilty to check the development of other types. An inference from this would be that Nature herself had decided that there is no better method of protecting the human organism from such infection than by the utility of certain protective bacteria. It would follow from this that could organisms be found whose inhibitory effects were even greater than those normally inhabiting the intestinal tract we

would then have a rational method of curing or preventing many intestinal diseases, or those resulting from intestinal conditions.

Unfortunately, the forms commonly found in the intestinal tract can themselves under certain conditions multiply and acquire increased virulence, and in this way become harmful to the host. The bacterium, which is usually antagonistic to the growth of others and which has never been shown to produce harmful results, would be almost an ideal curative agent. We believe that the Bulgarian bacillus possesses most ideally such attributes. A discussion of its various properties will be contained under the following heading.

THE BULGARIAN BACILLUS.

Grigoroff of Massol's Laboratory in Geneva first isolated and described "Type A" of the bacillus Bulgaricus (*Revue Med. de la Suisse Rom.*, 1905, XXV, 714).

White and Avery (Observation on Certain Lactic Acid Bacteria of the so-called Bulgaricus Type, Cent. Bakt., par. II, 1909, Vol. XXV, p. 161) have reviewed the morphological, cultural and biochemical features of the lactic acid producing bacilli obtained from Yoghurt, Mazun or Matzoon, and Leben. They classify them as a single group identical with the bacterium caucasicum, Kern (*Bulletin de la Societe Imperiale des Naturalistes de Moscou*, 1881, No. 3). This group, however, owing to certain differences in the presence or absence of granules, demonstrated by different stains, the degree of lactic acid production and the nature of the lactic acid formed, can be divided into two types, designated as the true type ("Type A") and the para type ("Type B"). The proper characteristics of these two types, "A" and "B," are:

"Great variability of cell form, depending on age of culture and kind of media. Length equal to 2 μ to 50 μ. Breadth about 1 μ. Chain formation marked in some strains. Longer and slenderer forms seen in older milk cultures. Nonmotile, nonsporulating. Viable bacilli are gram-positive, dead and involution forms gram-negative. Difficult to cultivate (growth in most media feeble). Freshly isolated, growth obtainable only on media containing whey or malt and in milk. Growing equally well under aerobic and anaerobic conditions. Optimum temperature for growth is from 44°-45°. Fair growth at 30°, slight at 25°, none at 20°. Colonies on whey agar are round to irregular, grayish white, 0.5-1.5 mm., curled, filamentous structure, periphery mostly filamentous, often streaming, in a few cases smooth and even. Gelatine not liquefied. No surface growth on gelatine stab cultures. Along the stab, growth is filiform, beaded, projecting ramifications later. Medium clear. In agar stabs the growth is the same as above, but heavier. The medium is clouded. The growth in whey produces clouding, which disappears in 5 to 14 days, forming a grayish white sediment. No growth on potatoes. Milk coagulated in 8-18 hours at 44°, and is the most favorable medium for growth. The lactic acid formed is either inactive or laevo-

rotatory. A small quantity of volatile acid is produced. No appreciable peptonization of the curd. Nonpathogenic."

"Type A" varies from "Type B" in the fact that the protoplasm of this organism stains homogeneously with Loeffler's methylene blue or with Neisser's stain, while "Type B" shows the presence of intensely staining granules. It produces 2.7 to 3.7 per cent. lactic acid in milk, while "Type B" produces only 1.2 to 1.6 per cent. "Type A" produces the inactive lactic acid, while "Type B" produces always the laevorotatory acid.

In whey after 18 to 24 hours "Type A" shows an involution form, which consists of an oval or kidney-shaped nodule, attached to a small stem extruding from the cell substance, or from the junction of two of the bacilli. "Type B," under the same conditions, one or more spherical bodies without stems attached to the cells or free in the fluid resembling cocci. "Type A" being the greatest acid producer and more active in every way than "Type B," is the organism which is chiefly used in the production of the best forms of Bulgarian buttermilk. It is the bacteria contained in the Bulgara tablets of Hynson, Westcott & Co.

Bertrand and Duchacek (Action du ferment bulgare sur les principaux sucres. Annal. de l'Inst. Pasteur, T. 23, 1909, p. 402) report that dextrose, mannose, glactose, levuose and lactose are fermented by the Bulgarian bacillus, while arabinose, xylose, scorbose and saccharose are not attacked. Mannite is not transformed into lactic acid. Whey cultures of different ages were tested for indol without results. It is probable that an enzyme is formed, which coagulates milk, because even after all acid produced in the media is neutralized by the addition of calcium-carbonate, calcium-chloride and zinc-chloride in excess, the curdling of the milk still takes place.

Desiccation.—Cultures if properly dried live about one month longer than when grown in milk or fluid cultures, i. e., about four months.

THE TREATMENT OF VARIOUS PATHOLOGICAL CONDITIONS WITH THE BULGARIAN BACILLUS.

It has been shown in the previous pages that soured milk was used as a health food from remote ages down to the present day. In the majority of instances this souring of the milk was due to a certain group of bacteria, the lactic acid producing bacilli, most prominent among which was the Bulgarian bacillus. ("Type A.")

No thinking man can doubt that a remedy which has borne the test of time so long could fail to have considerable, if not a great deal, of merit in its administration. Adding to these facts of history, the scientific study of the organism chiefly concerned, with the clinical data obtained from the very best sources, there can be no doubt that we have in this bacterium a most valuable remedy, if applied in suitable cases with some degree of intelligent application.

In combating diseases, the use of fermented milk is based on the theory that the introduction of lactic acid bacilli produces conditions unfavorable to the growth of harmful bacteria. This inhibitory action may be due in part to the acid already formed in the milk or culture used, and in part to the introduction into the digestive system, or other portions of the body, of the actively growing lactic acid bacilli. These can establish themselves here, and by their development will have a tendency to suppress the activity of the undesirable bacteria, either by producing more lactic acid or by their overgrowth, or by the production of certain bacteriacidal bodies, the presence of which are believed to exist, but are not well understood.

In their new locality these bacilli may continue their protective work for a considerable period of time, even after their administration has been stopped. This fact alone gives them a decided advantage over such intestinal antiseptics as beta-naphthol, salol, thymol, urotropin, etc., which have only a limited field and are in some instances unsafe to use.

Let us review again the important properties of the Bulgarian bacillus from a therapeutic standpoint. It is a large acid producer, according to Bertrand and Weisweiller (Ann. de l'Inst. Pasteur, 1906), producing ordinarily to each liter of milk as much as 25 grammes of lactic acid and 50 centigrams of acetic and succinic acid. Under some conditions as much as 4 per cent. of lactic acid is formed. Hastings and Hammer (Research Bulletin, Wisconsin Experimental Station, (6), Vol. 25, 1909). It has no putrefactive action upon proteids. It lives under both aerobic and anaerobic conditions. It is absolutely without any pathogenicity. It will grow well in milk cultures containing 0.5 hydrochloric acid, (therefore, gastric juice containing one to two per cent. could hardly destroy it). It also grows readily in neutral cultures and those with an excess of alkali, especially calcium-carbonate. It will also grow in milk containing 4 per cent. of alcohol. (The fermented drink "Araka" or "Ojran" of Siberia contains 8 per cent. alcohol, due to the fermentation of certain yeasts.) It does practically all and more than any of the other forms of lactic acid producing bacteria can do, and is for this reason the one selected generally for the treatment of human beings.

The Bulgarian bacillus then on hypothetical grounds would seem to be especially suited for a therapeutic role. Let us see if experimental and clinical data will confirm this theoretical assumption. Many authors have shown in the past that the organisms of typhoid, diphtheria, tuberculosis, etc., and various putrefactive bacteria, are inhibited by the Bulgarian bacillus when it is grown in suitable media. After 12 to 48 hours the Bulgarian bacillus alone survives.

Dr. C. A. Herter of New York (*British Med. Journal*, p. 1898, December 25, 1897) discovered that he could disinfect the intestinal tract of animals by the action of lactic acid bacilli. (Also see "The Common Bacterial Infections of the Digestive Tract, 1907.")

He found in the digestive tract of a monkey (1908), killed after feeding for two weeks with milk soured by the Bulgarian bacillus, that this organism was abundant in the upper part of the small intestine. Only a moderate number were found in the large intestine. I do not think that this experiment on one animal was very conclusive.

Belonovsky showed that mice fed on Bulgarian bacillus cultures had a much less number of bacteria in their droppings, while those fed on sterile milk or sterile milk curdled with lactic acid showed no change in the number. All groups of mice lost weight except those fed on sterile cultures of the Bulgarian bacillus, which held their weight, while those fed on active cultures of the Bulgarian bacillus gained weight. His experiments indicated that it was not the lactic acid, but rather some other unknown element which has the antiseptic effect on the intestinal bacteria.

Dr. Michael Cohendy concluded from his experiments on four patients that this organism was readily established in the intestines and persisted for a considerable time after they had ceased drinking fermented milk. He stated that the multiplication of these bacteria took place in the upper two-thirds of the colon. The stools of these patients were acid or neutral. He also stated that the ethereal sulphates were reduced in the urines and that this reduction must be attributed to a disinfection of the large intestine.

Cohendy (C. R. de la Societe de Biologie, March 17, 1908) performed similar experiments on himself. First making estimations after twenty-five days without taking any bacilli, and then after taking the bacilli in large quantities (280 to 350 grammes a day) for two months. The intestines now showed much less putrefaction, as was demonstrated by the urine. This effect continued several weeks after the treatment was stopped, whether meat was taken in the diet or not.

Combe and Poshon, his associate, (Combe L'Auto-Intoxical Intestinale, Paris, 1909), performed similar experiments with the same deductions.

Charles E. North reports three hundred patients treated with Bulgarian bacillus and suggests the use of a culture in dextropeptone, to which calcium-carbonate was added, in diseases affecting other portions of the body than the intestinal tract. He recommends such cultures applied as a spray or injection in various inflammations of the ear, nose, throat and genito-urinary tract.

Metchnikoff claims that he was relieved himself of a dropsy, following a heart condition, by the intestinal administration of milk cultures of the lactic acid bacilli, although treated for thirty years by the best specialists in France and Germany without result.

Klotz reports, in addition to Metchnikoff in 1906, good results in intestinal infections.

Among other authors who have obtained good results in the treatment of patients with cultures of the Bulgarian bacillus are:

E. I. Harrington, who treated a number of adults and children successfully.

Horwitz, who obtained excellent results in thirteen cases of diabetes, and Beveridge also in one hundred and seventy-six cases of this disease.

David Watson used filtered cultures in the vagina of women for the treatment of gonorrhœa.

Jeannin used gauze soaked in fresh liquid cultures of the Bulgarian bacillus in septic vulvo-vaginal sores and large recto-vaginal fistulas, and also in breast abscesses with excellent results.

Pouliot recommends lactic acid bacilli in local applications.

Berry reports excellent results in twenty-four children suffering from summer diarrhœa. No preliminary purgative or change in diet was used in a number of cases.

C. J. Schillings of Allandale, Oakland, Cal., a naturalist, reports January, 1912, great success in the treatment of "white" or "brooder diarrhœa" in young chicks, also in various enteric troubles of turkeys and game-birds, by feeding them with cultures of the Bulgarian bacillus.

R. S. Loving of Dallas, Texas (1913), reports excellent results in cases of infantile diarrhœas, etc., treated with Hynson and Westcott's Bulgara tablets.

R. O. Clock reports one hundred and seventeen cases of infantile diarrhœa treated by the intestinal implantation of the bacillus Bulgaricus at the Babies' Hospital in New York. These patients varied in age from six weeks to two and one-half years. They represented four cases of entero-colitis and one hundred and thirteen cases of gastro-enteritis. Of these last cases, forty-seven were mild, fifty-three severe and fourteen very toxic. The average period of time before treatment was started was one week, the longest period three weeks and the shortest two days. Treatment consisted in using from one to three Hynson and Westcott Bulgara tablets every two to three hours. Seventy-four babies were kept on their regular milk diet, forty-three from twenty-four to forty-eight hours in the beginning on a starvation diet of barley water. Twenty-nine of this forty-three were given a preliminary dose of castor oil. The cases which improved the fastest, indicated by gain of weight, change in character and number of stools, subsidence of fever, abatement of vomiting, improved appetite, etc., were those that were kept from the start on the regular milk diet. Improvement started in twenty-four hours and all gains of weight were permanent. Only one case, a very toxic one, died. As many as forty-two tablets in twenty-four hours were given to very young babies without untoward results.

Nicholson and Hogan (*Journ. of the Amer. Med. Assoc.*, January 14, 1914) have gotten good results in the treatment of diphtheria with the Bulgarian bacillus. Liquid cultures being sprayed into the nose and throat, a partial application of the method recommended by Harold B. Wood, who used a spray of lactic acid for the same disease.

CONCLUSION.

It would be impossible to quote from more than a few of the important communications on this subject. It is evident from the voluminous literature collected (178 articles by 140 authors) that a great many physicians in many countries are interested in the therapeutics of soured milk cultures. It has surprised me, going over this work, to find how little real scientific work has been done on the bacteriology of the digestive tract under the varying conditions of health and disease. The careful study of the intestinal flora of all cases of grave anemia would probably be of the greatest service. Much more accurate research is needed in the chemistry of the digestive tract under normal conditions, after rest, fatigue or protracted strain, starving, overfeeding with proteids, with carbohydrates, etc., and in a host of abnormal conditions. I cannot understand why men, capable of doing this kind of work, are wasting their time over lesser problems when confronted with such vital ones.

While I personally can quote a number of intestinal cases treated with advantage by the cultures of the bacillus Bulgaricus, it would hardly seem necessary to do so. I should like, however, to state emphatically my conclusions from going over this work and from my personal experience with patients. It is always best in cases where we wish to limit the amount of putrefaction in the intestine to cut down or eliminate protein food. It is quite questionable whether the flora of the large intestine normally is much modified through the ingestion by mouth of the lactic acid bacteria unless this is done. It does not seem necessary to give enormous quantities of these bacilli, but rather to be sure that one is dealing with viable (living) cultures. Tablets should certainly be preferred in the treatment of cases with hyperacidity. If liquid cultures are used they can be neutralized with calcium-carbonate, which rather favors the growth of the Bulgarian bacillus. As the inhibitory powers of the Bulgarian bacillus are due especially to certain bacteriacidal products formed, other than the lactic acid, it is not necessary that they should actually replace the normal flora of the intestinal tract in order to considerably lessen putrefactive processes. Clinical experiences show that even in cases where an excessive protein diet is used, as in tuberculosis and other wasting diseases, and the cases of mal-nutrition in children, we can even here limit greatly putrefaction in the large intestine. This fact can be determined by various urinary tests for indican and ethereal sulphates, etc. To get a maximum effect in most cases of auto-intestinal intoxication, it is important that the patients under treatment should take little or no exercise. States of fatigue, according to Ficker, increase putrefaction in the intestines. This is probably because exercise diminishes the volume of gastric juice and other juices, which normally inhibit bacterial growth. It also diminishes peristalsis. Exercise produces a leucocytosis and accelerates the flow of lymph and blood. During exercise and after, bacteria tend to migrate from the intestinal canal out into the

neighboring tissues. The epithelial cells become more pervious to bacteria, aided probably by the increased number of leucocytes. In this connection it is interesting to find that the flesh of overfatigued animals decomposes sooner than the flesh of rested animals. To recapitulate: In the treatment of various conditions with the Bulgarian bacillus, it is important to have viable cultures, to control the diet of the patients, and see that they avoid undue physical or mental effort.

LITERATURE.

Acerbi, Joseph. Travels Through Sweden, Finland and Lapland and to the North Cape in the Years 1798 and 1799-1802.

Adametz. Centralbl. Bakt. Par., 1889, Bd. 5, p. 116.

Addison, Chas. G. Damascus and Palmyra. 1838.

Allik. Dissertat. Dorpat., 1896, 19, p. 303.

Arnold, R. Contribution a l'etude des laits fermentes. Le leben. (These, 44p., Montpellier.) Abstract in Koch's Jahresbericht uber die Fortschritte in der Lehre von den Gahrungs-Organismen, Vol. 10, p. 226. Leipzig, 1899.

Baldwin, Helen. Observations on the Influence of Lactic Acid Ferments Upon Intestinal Putrefaction in a Healthy Individual. Journal of Biological Chemistry, Vol. 7, No. 1, pp. 37-48. Baltimore, December, 1909.

Beijerinck. Centralbl. Bakt. Par., 1889, Bd. 6, p. 44.

Beijerinck. Sur le Kefir. (Archives neerlandaises des sciences exactes et naturelles. T. 23, 1889, p. 428.)

Belonovsky, Jr. Influence du ferment lactique sur la flore des excrements des souris. Annales de l'Institut Pasteur, Vol. 21, No. 12, pp. 991-1004. Paris, December 25, 1907. Abstract in Centralblatt fur Bakteriologie, Parasitenkunde und Infektionskrankheiten. Abt. 2, Vol. 21, No. 13/14, p. 431. Jena, July 25, 1908.

Bergman. "Studien ueber die Digestion der Pflanzenfresser," Skandinavisches Archiv f. Physiol., xviii, p. 119, 1906.

Berry, Charles White. Some Cases of Diarrhea Treated with Culture of the Bacillus Bulgaricus. Archives of Pediatrics, Vol. 31, No. 7, July, 1914.

Bertrand and Duchacek. Action du ferment bulgare sur les principaux sucres. (Annal. de l'Inst. Pasteur. T. 23, 1909, p. 402.)

Bertrand and Weisweiller. Action du ferment bulgare sur le lait. (Annal. de l'Inst. Pasteur. T. 20, 1906, p. 977.)

Beveridge. New York Med. Jour., July 13, 1913.

Bible. Ex. xviii and xxiii, Lev. ii and xi.

Biel. Jahresb. u. d. Fortschr. d. Tierchem, 1886, 16, p. 159.

Biel, Jr. Untersuchungen ueber den Kumys und den Stoffwechsel wahrend der Kumyskur. 51 pp. Vienna, 1874.

Black, J. J. Forty Years in the Medical Profession. 1900, p. 195.

Blyth, A. W. Foods, Their Composition and Analysis.

Boutroux. Comp. Rend., 86, 1905, 605.

Brudzinski, Jr. Ueber das Auftreten von proteus vulgaris in Sauglings-Stuhlen nebst einem Versuch der Therapie mittelst darreichung von Bacterienculturen. Jahrbuch fur Kinderheilkunde und Physische Erziehung, Vol. 52, No. 3, pp. 469-484. Berlin, October 10, 1900.

Bruhn, F. Kefir und Kumyss. Zeitschrift fur Fleisch und Milch-Hygiene, Vol. 16, No. 6, pp. 181-184. Berlin, March, 1906.

Brush, Edward F. Kumyss. 20 pp. (h. d., n. p.).

Burckhardt. Bedouins.

Burckhardt. Travels in Syria and the Holy Land. 1822.

Burckhardt's Arabia.

Burckhardt and Doughty.

Burri and Thoni. Ueberfuhrung von normalen, echten Milchsaurebakterien in fadenziehende Rassen. (Centralbl. f. Bakt., Abt. II, Bd. 23, 1909, p. 32.)

Carrick, L., M.D. Koumiss or Fermented Mares' Milk and Its Uses, and the Treatment and Cure of Pulmonary Consumption and Other Diseases. 294 pp. Edinburgh and London, 1881.

Chatterjee, Gopal Ch., M.B. "A New Lactic Acid Producing Strepthothrix." The Indian Medical Gazette, September, 1909.

Clarke's Travels. 1810.

Clock, R. O. One Hundred and Seventeen Cases of Infantile Diarrhea Treated by Intestinal Implantation of the Bacillus Lactis Bulgaricus. A. M. A. The Journal, June 29, 1912, p. 2017.

Cohendy, Michel. De la desinfection intestinale obtenue, sans regime special, par l'acclimatation d'un ferment lactique dans le gros intestin. Comptes Rendus Hebdomadaires des Seances de la Societe de Biologie, Vol. 60 (annee 58, tome), No. 13, pp. 602-604. Paris, 1906.

Cohendy. Essais d'acclimatation microbienne persistante dans la cavite intestinale. (Compt. Rend. de la Soc. de Biol., T. 1, 1906, p. 364.) Delimitation du siege probable de cette acclimatation.

Cohendy. Description d'un ferment Lactique Puissant capable de s'acclimater dans l'intestin de l'homme. (Compt. Rend. de la Soc. de Biol., T. 1, 1906, p. 558.) Essai de traitement de l'enterite muco-membraneuse aigue par l'acclimatation d'un ferment lactique dans le gros intestin. (Compt. Rend. de la Soc. de Biol., T. 1, 1906, p. 872.)

Cohendy, C. R. de la Societe de Biologie, March 17, 1908.
Conn Bacteria in Milk and Its Products.
Conradi, Heinrich, and Kurpjuweit, O. Ueber spontane Wachstumshemmung der Bakterien infolge Selbstvergiftung. Muenchener Medizinische Wochenschrift, Vol. 52, No. 37, pp. 1761-1764. Munich, September 12, 1905.
Conradi, Heinrich, and Kurpjuweit, O. Ueber die Bedeutung der bakteriellen Hemmungsstoffe fuer die Physiologie und Pathologie des Darms. Muenchener Medizinische Wochenschrift, Vol. 52, No. 45, pp. 2164-2168, and No. 46, pp. 2228-2232. Munich, November 7, 14, 1905.
Crithari, C. Etude sur la symbiose du bacille bulgare et du bacille butrique. Comptes Rendus Hebdomadaires des Seances de la Societe de Biologie, Vol. 64, No. 16, p. 818. Paris, May 15, 1908.
Douglas, Loudon M. Annals of Dairying in Europe.
Douglas, Loudon M. "Modern Dairy Practice," Journal of the Royal Society of Arts, March 6, 1908.
Douglas. The Bacillus of Long Life. 1911.
Duggeli. Bakteriologische Untersuchungen uber das armenische Mazun. (Centralbl. f. Bakt., Abt. II, Bd. 15, 1906, p. 577.)
Emmerling, Oskar. Ueber armenisches Mazun. Centralblatt fur Bakteriologie, Parasitenkunde und Infektionskrankheiten. Abt. 2, Vol. 4, No. 10, pp. 418-421. Jena, May 27, 1898.
Encyclo. Biblica. Carthaginians.
Engel, Friedrich. Yoghurt oder saure Milch und ihre Fabrikations-Methoden. Molkerei Zeitung, Vol. 22, No. 51, pp. 1461-1463. Hildesheim, December 19, 1908.
Esaulow, N. Bakteriologische und Chemische Untersuchung des Kefir. (Diss. Moskau, Pharmazeutische Zeitschrift fur Russland, Vol. 34, p. 232.) Abstract in Koch's Jahresbericht uber die Fortschritte in der Lehre von den Gahrungs-Organismen, Vol. 6, p. 222, 1895.
Escherich. Therapeu. Monatshefte., October, 1887.
Ficker. Ueber den Einfluss des Hungers auf die Bakteriendurchlassigkeit des Intestinaltraktus, Archiv f. Hyg. Liv., p. 354, 1905.
Fleischmann. Lehrb. d. Milchwirtschaft, 2d edition. Bremen, 1898.
Forchheimer. Therapeusis of Internal Diseases, Vol. 3, chapters 1 to 9.
Freshfield, Duncan W. The Exploration of the Caucasus. 1896.
Freudenreich, v. Bakteriologische Untersuchungen uber den Kefir. (Centralbl. f. Bakt., Abt. II, Bd. 3, 1897, pp. 47, 87, 135.)
Freudenreich, Edward von. Recherches bacteriologiques sur le kefir. Annales de Micrographie, Vol. 9, pp. 5-33. Paris, 1897.
Freudenreich and Jensen. Cent. Bakt. Par., II, 1897, 3, 545.
Fuhrmann, Franz. Ueber Yoghurt. Zeitschrift fur Untersuchung der Nahrungs und Genussmittel, Vol. 13, No. 10, pp. 598-604. Berlin, May 15, 1907.
Gebhard, Fritz. Ueber Kephir, seine Bereitung und therapeutische Verwerthung. Inaugural dissertation. Wurzburg, 1884.
Gourbet. Notes sur la fermentation du Yoghurt. (Compt. Rend. de la Soc. de Biol., T. 60, 1906, p. 495.)
Graabe, K. B. Yoghurt. Maelkeritidende, Vol. 22, No. 1, pp. 8-12. Odense, January 1, 1909. Abstract in Milch-Zeitung, Vol. 38, No. 10, pp. 112-113. Leipzig, March 6, 1909.
Grekoff. "Observations cliniques sur l'effet du lact. agri.," etc., St. Petersburg, 1907.
Grieve, Dr. John. Transactions of the Royal Society of Edinburgh, 1784.
Grigoroff. Revue Medicale de la Suisse Romande, 1905, p. 10.
Grigoroff. Etude sur un lait fermente comestible, le "Kisselo" melko de Bulgare. (Revue medicale de la Suisse Romande, T. 25, 1905, p. 714.)
Grixoni. Il Giodalu. (Annali della medic. navale. (Vol. 2, 1905.) Ref. (Centralbl. f. Bakt., Abt. II, Bd. 15, 1906, p. 750.)
Guerbet. Comptes Rendus, 1906.
Hallion, L. Le defir. Presse Medicale, Vol. 8, No. 43, pp. 265-267. Paris, May 30, 1900.
Hammersten. Jahresb. f. d. Fortsch. d. Tierchem, 1886, Bd. 16, p. 163.
Hammersten, Olof. Untersuchungen von Kefir. (Upsala Lakarefor. Forhand., Vol. 21, pp. 1-32, 1886.) Abstract in Biedermann's Centralblatt fuer Agrikulturchemie und Rationellen Landwirtschafts-Betrieb, Vol. 17, pp. 413-417. Leipzig, June, 1888.
Harrington, E. I. (New York State Jour. Med., February, 1912.) Divides into three classes the cases in which he has found pure cultures of the Bulgarian bacillus of value.
Hastings, Edward G. A Preliminary Note on a Group of Lactic Acid Bacteria Not Previously Described in America. Science, Vol. 28, No. 723, p. 656. New York, November 6, 1908.
Hastings and Hammer. Research Bull., Wisconsin Experimental Station, 6, 1909.
Hastings, Edward G., and Hammer, B. W. The Occurrence and Distribution of Organisms Similar to the B. Bulgaricus of Yoghurt. Centralblatt fuer Bakteriologie, Parasitenkunde und Infektionskrankheiten, Abt. 2, Vol. 25, No. 14-18, pp. 419-426. Jena, December 22, 1909.
Havem, Georges. Indications therapeutiques du kephir. Presse Medicale, No. 78, pp. 617-620. Paris, September 28, 1904.
Heinemann. Centralbl. Bakt. Par., 1908, 21, 57.
Heinemann, Paul G. Lactic Acid as an Agent to Reduce Intestinal Putrefaction. Journal of the American Medical Association, Vol. 52, No. 5, pp. 372-376. Chicago, January 30, 1909.
Henneberg, William. Yoghurt. Milch-Zeitung, Vol. 37, No. 43, pp. 506-509. Leipzig, October 24, 1908.

Heinemann and Hefferan. A Study of Bacillus Bulgaricus. Jour. Inf. Diseases, Vol. 6, 1909, p. 304.
Herschell, George A. On the Use of Selected Lactic Acid Bacilli and Soured Milk in the Treatment of Some Forms of Chronic Ill-Health. Lancet, Vol. 175, No. 4432, pp. 371-374. London, August 8, 1908.
Herschell, George A. Soured Milk and Pure Cultures of Lactic Acid Bacilli in the Treatment of Disease. 32 pp. London, 1909.
Herter, C. A., M.D. The Common Bacterial Infections of the Digestive Tract and the Intoxications Arising from Them. 1907.
Herter, Christian A. On Certain Relations Between Bacterial Activity in the Intestine and the Indican of the Urine. British Medical Journal, No. 1939, pp. 1847-1849. London, December 25, 1897.
Herter, Chrisian A. On the Therapeutic Action of Fermented Milk. Popular Science Monthly, Vol. 74, No. 1, pp. 31-42. New York, January, 1909.
Herter, Christian A., and Kendall, A. I. An Observation on the Fate of B. Bulgaricus in the Digestive Tract of a Monkey. Journal of Biological Chemistry, Vol. 5, No. 2/3, pp. 293-302. Baltimore, October, 1908.
Herter, Christian A., and Kendall, A. I. The Influence of Dietary Alterations on the Types of Intestinal Flora. Journal of Biological Chemistry, Vol. 7, No. 3, pp 205-236. Baltimore, February, 1910.
Hiss and Zinsser. Textbook of Bacteriology, 1914, p. 712.
Horwitz. Med. Record, June 25, 1913.
Hutchison, Robert, M.D. Food and the Principles of Dietetics.
Jeannin. China Med. Jour., February, 1913.
Kalantharinz. Dissert. Berlin, Abs. in Koch's Jahresb., 1898, Bd. 9.
Kefir. Pure Products, Vol. 4, No. 6, pp. 245-248. New York, June, 1908
Kern. Bulletin Soc. des Naturalistes de Moscow, 1881, 3, p. 141.
Kern, Eduard. Ueber ein Milchferment des Kaukasus. Botanische Zeitung, Vol. 40, No. 16, pp. 263-264. Leipzig, April 21, 1882.
Kern, Tibor. Effect of the Yoghurt Bacillus (Bacillus Bulgaricus) on the Bacterium Coli. Orvosi Hetilap, p. 416, 1909. Abstract in Centralblatt fuer die Gesammte Physiologie und Pathologie des Stoffwechsels, Vol. 10 (neue Folge, Vol. 4), No. 21, p. 843. Berlin, November, 1909.
Klotz, Max. Zur Bakteriologie des Yoghurts. Centralblatt fur Bakteriologie, Parasitenkunde und Infektionskrankheiten, Abt. 2, Vol. 21, No. 13/14, pp. 392, 398. Jena, July 25, 1908.
Klotz, Max. Ueber Yoghurtmilch als Sauglingsnahrung. Jahrbuch fuer Kinderheilkunde und Physische Erziehung. III F., Band 67. Ergaenzungsheft, pp. 1-56. Berlin, 1908. Abstract in Centralblatt fuer Bakteriologie, Parasitenkunde und Infektionskrankheiten, Abt. 2, Vol. 22, No. 14/17, p. 437. Jena, February 5, 1909.
Klotz. Centralbl. f. innere Med., 1908.
Koning. Milchw. Centralbl., 1905, 1, 280.
Koumiss. Pure Products, Vol. 3, No. 12, pp. 559-562. New York, December, 1907.
Krakauer, 1. Nahr- und heilwerth des echten Kefirs in Krankheiten der harnsauren Diathese und anderen Fallen. Wiener Medizinische Presse, Vol. 39, No. 4, pp. 134-142. Vienna, January 23, 1898.
Kraunhals, H. Ueber das kumys-aehnliche Getrank "Kephir" und ueber den "Kephir"-pilz. Deutsche Archiv fuer Klinische Medicin, Vol. 35, No. 1-2, p. 1837. Leipzig, July 2, 1884.
Kuntze. Centralbl. Bakt. Par., 1909, 24, p. 101.
Kuntze. Studien ueber fermentierte Milch. (Centralbl. f. Bakt., Abt. II, 1908, Bd. 20, p. 737.
Laxa, Dr. Otakar, of Prague, Bohemia. Revue generale du Lait, vii, pp. 8 and 9.
Layard. Discoveries in Ninevah and Babylon by Layard, chap. xiii.
Leeds, Albert B. Foods for Invalids and Infants. New Jersey Dairy Commissioner, Annual Report, pp. 37-47. Trenton, 1887.
Lehmann and Neumann. Atlas und Grundr. der Bakteriologie, 4. Auf 1, 1907.
Lersch. Die Kur mit Milch und den daraus Getranken (Molken, Kumys). 90 pp. Bonn, 1869.
Lesage. Rev. de med., 1887.
Leva. Zur Beurteilung der Wirkung des Laktobacillins und der Yoghurtmilch. (Berl. klin. Wochenschr., 1908, p. 922.) Abstract in Biochemisches Centralblatt, Vol. 7, No. 14, p. 546. Leipzig, June, 1908.
Levin. "Bakteriologische Darmuntersuchungen." Skandinavisches Archiv f. Physiol., xvi, p. 249, 1904.
Lindner. Mikroscop. Betriebscontrolle, i. d. Garungswirkung, 3d edit., Berlin, 1901.
Lohnis. Versuch einer Gruppierung der Milchsaurebakterien. (Centralbl. f. Bakt., Abt. II, Bd. 18, 1907, p. 97.) Die Bennennung der Milchsaurebakterien. (Centralbl. f. Bakt., Abt. II, 1909, p. 553.
Lorand, A. Old Age Deferred, 1911, p. 63.
Loving, M. D. Colon Disharmony. Texas State Journal of Medicine, Vol. IX, No.
Luerssen and Kuhn. Yoghurt die bulgarische Sauermilch. (Centralbl. f. Bakt., Abt. II, Bd. 20, 1907-08, p. 234.)
Makrinoff. Cent. Bakt. Par. II, 1910, Vol. 26, p. 374.
Marshall and Wright. Care and Handling of Milk, Bulletin 221, Michigan, 1904.
Massol. Revue medicale de la Suisse romande, 1905.
M'Clintock and Strong. Cyclo. of Biblical Lit.
McFarlane, Arthur E. Prolonging the Prime of Life. Metchnikoff's Discoveries Show that Old Age May Be Postponed. McClure's Magazine, Vol. 25, No. 5, pp. 541-551. New York, September, 1905.
Metchnikoff, Elie. "The Utility of Lactic Microbes," the Century Magazine, November, 1909.
Metchnikoff. The Prolongation of Life, 1908, p. 161.

Metchnikoff. "Bacteriotherapie," etc. "Bibliotheque de therapeutique," Gilbert and Carnot, Paris, 1909.
Metchnikoff, Madam. "Note sur l'influence des microbes dans le development des tetards," Ann. de l'Inst. Past., xv, p. 631, 1901.
Michels, John. Manufacture and Marketing of Cottage Cheese, Skim Milk, Buttermilk and Ice-Cream. North Carolina Agricultural Experiment Station Bulletin 202, West Raleigh, May, 1909.
Moro. Wien. klin. Wochenschr., 5, 1900.
Moro. "Morphologische und biologische Untersuchungen ueber die Darmbakterien des Saeuglings," IV. "Der Schottelius Versuch am Kaltbluter," Jahrb. f. Kinderheilk., vii, p. 467, 1905.
Moro, Ernst. Ueber den Bacillus acidophilus n. spec. Ein Beitrag zur Kenntniss der normalen Darmbacterien des Saeuglings. Jahrbuch fuer Kinderheilkunde und Physische Erziehung, Vol. 52, No. 1, pp. 38-55. Berlin, July 7, 1900.
Morres, W. Die Bereitung von Yogurt (Yoghourt). Milch Zeitung, Vol. 38, No. 42, pp. 497-498. Leipzig, October 16, 1909.
Muller, Walter. Die verschiedenen Arten geronnener Milch. Molkerei Zeitung, Vol. 19, No. 44, pp. 517-518. Berlin, October 30, 1909.
Nature. July 23, 1884.
Nikolaiewa. Annals of the Botan. Lab. of the Med. Inst. for Women, No. 10. St. Petersburg, 1907.
Nikolaiewa, E. G. Die Mikroorganismen der Kefirs. Bulletin du Jardin Imperial Botanique de St. Petersbourg, Vol. 7, No. 4, pp. 121-142, 1908. Abstract in Milchwirtschaftliches Centralblatt, Vol. 5, No. 2, p. 91. Leipzig, February, 1909.
North, Charles E. Reports of 300 Cases Treated with a Culture of Lactic-Acid Bacteria. Medical Record, Vol. 75, No. 13, pp. 505-514. New York, March 27, 1909.
Nuttall and Thierfelder. "Thierisches Leben ohne Bakterien im Verdauungskanal." Zeitschr. f. Physiol. Chem., xxi, p. 109, 1895; xxii, p. 62, 1896; xxiii, p. 231, 1897.
Nicholson and Hogan. Jour. of the Amer. Med. Assoc., January 14, 1911.
Olscahnetsky, M. A. Untersuchung ueber den Stoffwechsel waehrend der Kephyrcur. Deutsche Medizinische Wochenschrift. Vol. 16, No. 27, pp. 589-592. Leipzig, July 3, 1890.
Pabst. Fabrication du lait champagnise et du kefir. (L'Agriculture Moderne, 1903.) Abstract in Revue Generale du Lait, Vol. 3, No. 7, pp. 165-166. Lierre, January 15, 1904.
Pearson, R. A., B.S., Washington. Facts About Milk.
Piffard. A Study of Sour Milks. N. Y. Med. Jour., January 4, 1908.
Piorkowski. Sitzungsber. der Berl. med. Ges., November, 1907.
Podowyssozki. Zeitschr. f. diat. u. physik. Therapie, Vol. 5, 1901, p. 570.
Podwyssotsky. Le kephir. 76 pp. Paris, 1902.
Pouliot. Revue Prat. d'Obstet. et de Gynecologie, September, 1912. Jour. Am. Med. Assoc., November 9, 1912.
Quincke. Verhandl. des Congress f. Inn. Med., Wiesbaden, 1898.
Reinhardt. One Hundred and Twenty Years of Life. The Secret of Longevity. By an F. R. M. S.
Richet. Comp. Rend., 86, 1905, 550.
Rist and Khoury. Annales de l'Institut Pasteur of 1899.
Rist and Khoury. Etudes sur un lait fermente comestible—le "Leben" d'Egypte. Annal. de l'Inst. Pasteur, T. 16, 1902, p. 65.
Rodella. Magencarcinom und Milchsaurebakterien. Centralbl. f. Bakt., Abt. I, Bd. 47, 1908, p. 445.
Rogers, L. A. Fermented Milk, 1911. U. S. Department of Agriculture, Bureau of Animal Industry, Circular 171.
Rosam, A. Osterreichische Molkerei Zeitung, 15, p. 31.
Rosenau, M. J. Preventive Medicine and Hygiene, 1904, p. 507.
Rosenthal, Georges, and Chazarain-Wetzel, P. Essais de bacteriotherapie clinique. (Premiere communication.) De l'emploi des ferments lactiques (bacille bulgare et streptocoque lactique) dans le traitement des infections chirurgicales des voies urinaires et de la vessie en particulier. Bulletin Generale de Therapeutique Medicale, Vol. 158, p. 17, July, 1909. Abstract in Biochemisches Centralblatt, Vol. 9, No. 1-2, p. 50. Leipzig, September, 1909.
Rubinsky. Centralbl. Bakt. Par. II, 1910, Vol. 28, p. 161.
Samarani, F. "Cieddu." (Annuario della Reale Stazione Sperimentale di Caseifico di Lodi. Lodi, 1907, pp. 95-98.) Abstract in Experiment Station Record, Vol. 20, No. 5, p. 477. Washington, January, 1909.
Schipin, D. Ueber den Kumysbacillus. Centralblatt fur Bakteriologie Parasitenkunde und Infektionskrankheiten, Bat. 2, Vol. 6, No. 22, pp. 775-777. Jena, December 4, 1900.
Scholl. Die Milch, Wiesbaden, 1891, p. 38.
Schottelius. "Bedeutung der Darmbakterien fuer die Ernahrung," Archiv f. Hyg., xlii, p. 48, 1902.
Sewerin. Einige Ergebnisse und Bermerkungen ueber den sogenannten Bacillus bulgaricus und das Milchsaurepraparat "Laktobacilline." Centralbl. f. Bakt., Abt. II, Bd. 22, 1908, p. 8.
Skolotowski. Wratsch, 1883 (Russian), from Codwyssozki.
Stanislaus, I. V. S. Kefir and Its Preparation. American Journal of Pharmacy, Vol. 80, No. 1, pp. 20-26. Philadelphia, January, 1908.
Stekhoven, J. H. Schuurmans. Saccharomyces kefyr. Onderzoekingen gedaan in het Physiologisch Laboratorium der Utrechtsche Hoogeschool, Vol. 2, p. 119 Utrecht, 1891.
Sternberg, George M., M.D., LL.D. Textbook of Bacteriology, 1898.

Stockton, C. G. Diseases of the Stomach, 1914, p. 54.
Strasburger, J. "Untersuchungen ueber die Bakterienmenge in menschlichen Faces," Zeitschr. f. klin. Med., xlvi, p. 413, 1902.
Taylor, B. Lands of the Saracens.
Theodoroff, J. Historische und experimentelle Studien ueber den Kephir. Inaugural Dissertation. Wurzburg, 1886.
Thorpe, T. E., C. B. Dictionary of Applied Chemistry.
Tissier. "Etude d'une variete d'infection sur le nourrisson," Ann. de l'Inst. Pasteur, xix, p. 273, 1905.
Tissier and Martelly. Ann. de l'Inst. Pasteur, 1906.
Turnbull, Robert E. Livestock Journal.
Watson. Brit. Med. Jour., December 21, 1912.
Wegele. Dent. med. Woch., xxxiv, 1908.
Weigmann. Lafar's Handb. d. Techn. Mykol., 2d edit., 1905, Vol. 2, p. 134.
Weigmann, H., and others. Ueber armenisches Mazun. Centralblatt fur Bakteriologie, Parasitenkunde und Infektionskrankheiten, Abt. 2, Vol. 19, No. 1/2, pp. 70-87. Jena, July 16, 1907.
White, Benjamin, and Avery, Oswald T. Observations on Certain Lactic-Acid Bacteria of the So-Called Bulgaricus Type. Centralblatt fuer Bakteriologie, Parasitenkunde und Infektionskrankheiten, Abt. 2, Vol. 25, No. 5/9, pp. 161-178. Jena, November 30, 1909.
Wood, Harold B. "Lactic-Acid Spray for Diphtheria," Jour. Amer. Med. Assoc., August 9, 1913.

Book Reviews.

INTERNATIONAL CLINICS. Edited by Henry W. Cattell, A.M., M.D., Philadelphia. Volume III. Twenty-fourth Series 1914. Philadelphia and London: J. B. Lippincott Company. Cloth, $2 net.

Herein are recorded the vaccine treatment of typhoid fever, report of a series of eighteen cases, therapeutics of the foot, the treatment of diabetes, the nature and successful treatment of rheumatoid arthritis, the use of a series of vaccines in the prophylaxis and treatment of epidemic pertussis, some practical points in the therapeutic application of static electricity, anal fissure, primary cancer of the clitoris, etc., besides a number of other excellent selections, any one of which may be the article for which you are looking.

THE SALVARSAN TREATMENT OF SYPHILIS IN PRIVATE PRACTICE. With Some Account of the Modern Methods of Diagnosis. By George Stoppord-Taylor, M.D., M.R.C.S., and Robert William Mackenna, M.A., M.D., B.Ch., Physicians to the Liverpool Skin Hospital. New York: Rebman Company. 1914. Cloth, $2.00 net.

The above book is a record of the observations and impressions of the authors and the conclusions drawn after more than three years' work with salvarsan. They are thoroughly convinced of the immense value of salvarsan in the treatment of lues and its efficacy in controlling the ravages of this awful infection. The first chapter is devoted to a description of the cause of syphilis, the second to new light on parasyphilitic disease, the third to the treatment of syphilis with salvarsan, and the fourth to combined treatment of syphilis with salvarsan and mercury. In writing of the reaction following the injection of salvarsan the writers say: "Much has been written about the reaction which follows the in-

travenous injection, and many alarming symptoms, such as violent rigors, hyperpyrexia and collapse have been described as occurring. It has not been our misfortune to encounter any of these formidable manifestations. We attribute our immunity to the careful preparation of our patients, the technic of the administration and the after-treatment we pursue. We find that many of our patients have no reaction at all, except a little sickness or a slight looseness of the bowels. A temperature of more than 101° F., and that only for a short period, is in our experience a rare sequela. We still hold in some measure the reaction is related to the acuteness of the disease, and we should expect a patient with a florid secondary eruption to give a more severe reaction than an old tertiary case with an ulcer of the leg. The patient should be kept in bed for at least twenty-four hours after the injection. The value of this precaution lies in the fact that an equable temperature in bed aids the elimination function. After an injection intravenously a patient should lead a moderately quiet life for a week, and avoid chills."

The authors state that there are few contra-indications to the use of 606, but the following may be taken as absolute:

Severe non-compensated cardiac lesions.

Acute nephritis.

Gastric and duodenal ulcer, on account of the danger of hemorrhage.

Cirrhosis of the liver.

Patients with advanced degeneration in the central nervous system.

Severe glycosuria.

They are fully convinced from their experience that the dangers of its use have been grossly exaggerated. The fatal accidents which have occurred have been due either to large overdoses, the choice of unsuitable cases, such as patients suffering from severe degenerative changes in important organs, or to errors in technic. They emphasize: "It should not be forgotten that as with the administration of anesthetics, so with salvarsan, careful administration reduces the danger to a minimum; careless or haphazard administration means disaster. Where it can be arranged, they believe in following up an injection with ten or twelve intramuscular injections of grey oil, at the rate of one per week, each injection containing from 7 to 14 cgs. of metallic mercury. Where this is impossible they advise inunction at the hands of an expert masseur. They conclude: "The enemy we have to fight is a strong one, and will not be defeated by a half-hearted attack. Salvarsan given intravenously, followed by vigorous mercurial treatment, and, if necessary, further intravenous injections and more mercury, till the Wasserman reaction becomes negative and remains so permanently, is the method of treatment that promises and yields success."

This little book is well worth possessing. It is full of useful and practical suggestions, suggestions which can be put into

practice. It gives us great pleasure to recommend it to our readers.

The Physician's Visiting List (Lindsay and Blakiston's) for 1915. Sixty-fourth Year of Its Publication. Philadelphia: P. Blakiston's Son & Co., Successors to Lindsay and Blakiston. $1.25.

Those who have been using Lindsay and Blakiston's Visiting List are well aware of its sterling qualities. Those who aren't, but desire a satisfactory visiting list, cannot do better. Besides containing space for 25 patients per week, there is such additional information as calendar 1915-16, a complete table for calculating the period of utero-gestation, table of signs, incompatability, poisoning, the metric or French decimal system of weights and measures, quarantine periods of infectious diseases, comparison of thermometers, etc.

The Backward Baby. A Treatise on Idiocy and the Allied Mental Deficiencies in Infancy and Early Childhood. By Herman B. Sheffield, M.D., New York, Fellow of the New York Academy of Medicine and the American Medical Association; Author of Modern Diagnosis and Treatment of Diseases of Children, Pediatric Memoranda, and The Baby's Record and Health, and Co-Author of Practical Pediatrics; formerly Medical Director Beth David Hospital, Instructor in Diseases of Children, New York Post-Graduate Medical School and Hospital, and Associate Babies' Hospital (O. P. D.); Visiting Physician to the Philanthropic Hospital and the Northwestern Dispensary, etc. Awarded the Alvarenga Prize of the College of Physicians of Philadelphia, July 14, 1914. With twenty-two original illustrations in the text. New York: Rebman Company. 1914. Cloth, $1.50 net.

In the above book the profession is presented a practical survey of the etiology, pathology, diagnosis and treatment of the diverse mental deficiencies as they occur in children under five years of age. This is a phase of medicine which has received but scarce attention, and is therefore as yet in an undeveloped state. Owing to its importance it hardly seems possible that more attention has not been devoted to its investigation. We have therefore for the first time in a single volume and in a connected manner a study of idiocy and the cognate affections in children under five years of age. Such a contribution to medicine should and will go a long way towards ameliorating and perhaps curing those affections before the underlying lesions have permanently destroyed the cerebral functions. The book undertakes to discuss such conditions as: Heredity, modus operandi of hereditary transmission of amentia, examination of the patient, with especial reference to stigmata of degeneration, normal mentality and its development, impaired mental senses, status idioticus, mental tests, special

groups of amentia, microcephalus, hydrocephalus, infantilism, mongolism, cretinism, prophylaxis, eugenics, mental training of the normal infant, active treatment of amentia, etc. It is a book which should wield a powerful influence in directing attention to amentia and its prevention.

A Manual of Diseases of the Nose, Throat and Ear. By E. B. Gleason, M.D., LL.D., Professor of Otology in the Medico-Chirurgical College; Aurist to the Medico-Chirurgical Hospital; Surgeon in Charge of the Nose, Throat and Ear Department of the Northern Dispensary; formerly one of the Laryngolists to the Philadelphia Hospital. Illustrated. Third Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1914. $2.50 net.

Gleason's Manual of Diseases of the Nose, Throat and Ear has ever since its first appearance been a recognized students' guide. After a careful inspection of the present edition there is no reason why it should not occupy as prominent a part as its predecessors in the affection of students. Heretofore it supplied a distinct demand. Today the same demand exists. Consequently it should prove every whit as popular as the former editions. In this volume more space is devoted to diagnosis and treatment than in the former editions, with less to the rare and difficult operations. It is particularly pleasing in this respect and shows the wisdom of the author. Would that more in writing books had the same light. For the average student and beginner in medicine, diagnosis and treatment are of vastly more importance than operations, and it is a good omen that the author of the above volume realizes this fact. As formerly, it is a thoroughly trustworthy and reliable guide, and as a supplement to classroom instruction will be found very serviceable.

The So-So Stories. Reed & Carnrick.

The So-So Stories are a series of humorous stories of interest to physicians. The stories appeared individually and in serial form originally, but the demand for them became so great that the publishers finally decided to issue them under one cover. So here they are in their present form and designed only for the edification of the profession, any member of whom can procure the same by addressing Reed & Carnrick, Jersey City, N. J.

A Manual of Biological Therapeutics. Detroit: Parke, Davis & Co. 1914.

The above volume is a concise presentation of the method of production and uses of sera, bacterins, phylacogens, tuberculins, glandular extracts, toxins, cultures, antigens, etc. It is a volume of some 170 pages, embodying the experiences of Parke, Davis & Co. with these biological products.

MARYLAND MEDICAL JOURNAL

NATHAN WINSLOW, M.D., *Editor.*

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BALTIMORE, MARCH, 1915

THE HARRISON ANTI-NARCOTIC LAW.

By an act of Congress, approved December 17, 1914, it is provided that on and after the first day of March, 1915, every person who produces, imports, manufactures, compounds, deals in, dispenses, sells, distributes, or gives away opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, shall register with the collector of internal revenue of the district his name or style, place of business, and place or places where such business is to be carried on; provided, that the office, or if none, then the residence of any person shall be considered for the purpose of this act to be his place of business.

It is also provided that any physician desirous of availing himself of the privilege of dispensing those drugs coming under the provisions of this act shall register with the collector of internal revenue of his district not later than February 28, 1915. At the time of such registry and on or before the first day of July annually thereafter a fee of $1 shall be paid.

Though this law may seem drastic and unreasonable, the benefits accruing to the public so far overbalance any inconvenience to the physician that he should welcome the innovation. Doubtless it will work hardships upon drug habitues. As regrettable as this is, still it is for the best, and those victims who must have their dope can do so by applying to the proper hospitals for treatment. In the case of Baltimore, drug victims will be received at the City Hospital, Bayview, for treatment. It is also said that the Phipps Clinic will co-operate with the Supervisors of City Charities. One

can readily understand the desperate condition these victims find themselves in when the act, a Federal law, provides the channels along which narcotics must proceed from importation to final distribution, and has apparently everywhere thrown safeguards sufficiently comprehensive to check any illicit distribution. It can only be dispensed to the public by the druggist on the order of a practicing physician or dentist. All druggists filling the prescriptions are required to keep careful records of transactions, noting the name and address of the physician writing the prescription as well as the name and address of the person presenting it. Moreover, the physician writing the order must do so in duplicate and keep the copy on file for two years for inspection on demand of duly authorized agents of the Treasury Department. A record of the drugs coming under the operation of this law directly dispensed to the patient must be kept. This record must show the date when the drug was dispensed, the kind and quantity, the name and residence of the person to whom dispensed. As above, this record must be kept for two years subject to inspection as provided in the act. Preparations that do not contain more than two grains of opium, one-eighth of a grain of heroin, one-quarter of a grain of morphia, or one grain of codeine per ounce are exempted from the provisions of this act, also preparations for external use only, save those which contain cocaine or any of its derivatives.

The law also provides that physicians must take stock of the drugs coming under its provisions in their possession, and when ordering must do so on special blanks provided by the department at the rate of $1 per 100.

The law makes it unlawful for any person not registered to have in his possession or under his control any of the drugs coming under the operation of the act, with the exception of any employe of a registered person, or a nurse under the supervision of a physician, dentist or veterinary surgeon registered under this act, or to any United States, State, county, municipal, district, territorial or insular officer or official who has possession of said drug by virtue of his official duties. The violation of any of the provisions of this act entails a fine of not more than $2000 or imprisonment for not more than five years, or both, in the discretion of the court.

The above is a brief statement of the salient features of the Harrison Anti-Narcotic Law. At first physicians may find it annoying to comply with its many provisions. However, it is a good and a wise piece of legislation, and beneficent.

Medical Items.

The Fifth Annual Health Conference of the Medical and Chirurgical Faculty of Maryland was held in Osler Hall, 1211 Cathedral street, Baltimore, February 8-13, 1915. A number of interesting addresses were delivered and papers read by eminent physicians. On February 8 Governor Goldsborough and Dr. Harvey W. Wiley delivered addresses. The subject of Dr. Wiley's address was "The Wealth of Health." On February 9 Dr. W. L. Rodman, president-elect, American Medical Association, read a paper on "The Prevention of Cancer," and Drs. J. C. Bloodgood, Randolph Winslow and A. C. Harrison delivered addresses on "Local Aspects of the Cancer Question." On February 10 Dr. Arthur Cramp, associate editor, *Journal American Medical Association,* delivered an address on "Fakes and Frauds in Medicine." On February 11 addresses were delivered by Dr. Wm. Burdick, director, Public Athletic League of Baltimore, on "The Physical Aspects of Play," and Dr. Adolph Meyer, director of the Phipps Psychiatric Institute, on "Mental Hygiene of Childhood"; on February 12, by Dr. W. C. Rucker, Assistant Surgeon-General, U. S. P. H. S., on "The Menace of Bubonic Plague," and Dr. Wm. R. Stokes on "Vaccines and Antitoxins as Curative and Preventive Measures"; on February 13, by Dr. Nathan Gorter, Health Commissioner of Baltimore, on "Sanitary Needs of Baltimore," and Dr. John S. Fulton, Secretary, State Board of Health. Moving pictures were shown at each session.

A series of lectures on "Seeing Nearby American First" were delivered by Dr. Henry O. Reik at the hall of the Medical and Chirurgical Faculty of Maryland for the benefit of the faculty building fund.

Dr. Joseph F. Munnerlyn has resigned as assistant resident obstetrician to the University Hospital and returned to his home in Chaffee, S. C.

Dr. Herbert A. Codington, assistant resident surgeon at the University Hospital, is convalescing from an operation.

The Brady Urological Institute at Johns Hopkins Hospital has been put into full service. Eight patients have been transferred from the hospital proper to the new rooms of the clinic. Fourteen ward patients were installed the first week. No ceremonies were held in connection with the inauguration, which took place on February 4. The formal dedication of the institute will be held in the spring. The building is entirely complete, with the exception of full equipment for the laboratory work and experiments. Nearly $250,000 has been spent in the venture, the gift of Mr. Brady, "Diamond Dick," of New York.

Dr. and Mrs. Winford H. Smith gave a large reception February 11 at the Johns Hopkins Hospital for the visiting physicians of the hospital, their wives, and also for the nurses. The guests numbered about 300.

The January meeting of the Baltimore County Medical Association was held January 20 at the Eudowood Sanatorium at the invitation of Dr. Martin F. Sloan, superintendent. Luncheon was served at 2 o'clock, followed by a paper by Dr. Sloan on "Artificial Pneumothorax Treatment of Tuberculosis," with demonstrations. Officers were elected as follows: President, Dr. Lewis H. Gundry, Relay; vice-president, Dr. J. Carroll Monmonier, Catonsville; secretary, Dr. Martin F. Sloan, Towson; treasurer, Dr. F. C. Eldred, Sparrows Point; delegates to the State Faculty, Drs. H. Louis Naylor, Pikesville, and L. Gibbons Smart, Lutherville. The retiring president, Dr. G. C. McCormick, made his annual address.

At the annual meeting of the Columbia University Alumni Association of Maryland, January 27, at the Young Men's Christian Association Building, Baltimore, Dr. William H. Welch was elected president.

Dr. N. E. Berry Iglehart entertained the Medical Dinner Club Saturday, January 16, at his residence, 1008 Cathedral street. The table was arranged in a color scheme of yellow. There are eighteen members in the club. They usually meet about four times during the winter.

Owing to lack of funds St. Luke's Hospital, Baltimore, has been forced to close. On February 1 it was officially consolidated with the Hahnemann General Hospital. All patients at St. Luke's were moved in ambulances and automobiles Saturday, January 30.

The consolidation has raised the number of resident physicians at Hahnemann General to 25. The nursing staff will remain about the same. Drs. William Dew and L. C. Clarke

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will be the chief resident physicians of the merged institutions, with Miss Louzetta E. Cornish as day superintendent and Miss Theresa Boose as night superintendent. To pay off the debt of St. Luke's Hospital a theater party was held at Ford's Opera-house February 9.

Now that the merger of the two hospitals has been completed, the board of directors announces that the present quarters of the Hahnemann Hospital, on North Mount street, will be rebuilt at a cost of $250,000. Plans for the new building and remodeling of the old ones have been completed. The funds to accomplish the purpose of the board will be supplied, it is said, by the national organization of homeopaths. It is not known just when the rebuilding of the institution will be started.

Under the auspices of the Ladies' Guild of Hahnemann General Hospital a bridge and 500 party was held February 8 in the old Fifth Regiment Armory over Richmond Market. There were 200 tables set and about 600 persons played. The proceeds will be devoted to paying for the newly installed sterilizing system at the hospital.

Dr. Henry Chandlee announces the removal of his offices to 2000 North Charles street, where the newest equipment has been installed for radiography and X-ray therapy. Dr. Chandlee is associated with Dr. R. Tunstall Taylor, professor of orthopedic surgery at the University, in orthopedic work as well as doing general radiography. Office hours, 12.30 to 1.30 daily, except Sunday. Other hours by appointment. Telephone, Homewood 2459. Dr. Chandlee resides at 742 West North avenue.

Dr. James McFaddin Dick, Salisbury, who underwent an operation for the removal of gall-stones at the Peninsular General Hospital last month, is improving slowly.

BIRTHS.

To Dr. Roscoe D. McMillan, University of Maryland Medical School, '10, and Mrs. McMillan of Red Springs, N. C., December 20, 1914, a son—Franklin Ellison. Mrs. McMillan was before her marriage Miss Gertrude A. Garrison, University Hospital Training School for Nurses, class of 1910.

MARRIAGES.

Samuel W. Moore, D.D.S., 1904, to Miss Margaret E. Lawrence, University Hospital Training School for Nurses, class of 1906, both of Baltimore, Md., at Baltimore, January 23, 1915. Dr. Moore is the official anesthetist to the University Hospital. They will reside at 1701 Guilford avenue.

Thomas Brooks, M.D., University of Maryland Medical School, '10, to Miss Dolores Maria Mason, both of Santiago, Cuba, at Santiago, December 9, 1914.

The engagement is announced of Dr. Walter G. Sexton, Johns Hopkins Medical School, '11, to Miss Ethel H. Morgan, both of Baltimore, Md. Miss Morgan is the daughter of Mr. and Mrs. Charles Morgan of Roland Park. No date has been set for the wedding.

DEATHS.

Charles Wm. Chancellor, M.D., formerly of Lexington, Va., but later of Washington, D. C., died at his home, 1712 N street N. W., Washington, D. C., after a short illness, aged 84 years. Dr. Chancellor served with distinction in the Confederate Army and was medical director of General Pickett's brigade. After the war he located in Baltimore and became a prominent physician here. He was secretary to the Maryland State Board of Health, and later president of the Maryland State Insane commission.

Henry C. Shipley, M.D., University of Maryland Medical School, '65, formerly of Eldersburg, Md., later of Washington, D. C., died at the home of his daughter, 1935 Summit Place, N. E., Washington, D. C., after a lingering illness, February 11, 1915.

Henry Walton Wood, M.D., University of Maryland Medical School, '02, of Boston and New Bedford, Mass., a Fellow of the American Medical Association and a specialist in mental diseases, died in the Jefferson Hospital, Philadelphia, January 12, 1915, aged 35 years.

Thomas F. Keen, M.D., University of Maryland Medical School, '81, formerly a member of the Medical Society of Virginia, president of the Hamilton (Va.) Bank, one of the most widely known practitioners of northern Virginia, died at his home in Hamilton, January 24, 1915, aged 57 years.

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Medical Review of Reviews.

[CONTINUED FROM FEBRUARY NUMBER.]

Patients who have been taking both morphine and alcohol should be treated for the morphine and can be tapered off at the same time from their alcohol. They are apt to have an active gastritis, which complicates their ability to retain their medication or to retain food. Sodium citrat in doses of from five to ten grains every hour best relieves this condition, with or without from ten to twenty grains of cerium oxalate or five grains of Tully's powder every two hours for one or two doses.

The treatment for alcoholism and cocainism is outlined by the author as follows: In treating an alcoholic the belladonna mixture and five compound cathartic pills and five grains of blue mass are given simultaneously at the first dose. The belladonna mixture is continued every hour of the day and every hour of the night the same as with the morphine patients, and twelve hours before the initial dose patients are again given from three to five compound cathartic pills, and at the twenty-fourth hour after the initial dose they are again given the cathartics, followed by salines if necessary, and again at the thirty-sixth hour. After these last cathartics the bilious stools will appear, and by the forty-fourth or forty-fifth hour the castor oil is given. Sometimes it is necessary to carry on the treatment over another period, and the compound cathartic pills and blue mass are again given at the forty-eighth hour. It may even be necessary to carry on the treatment one or two periods longer.

Elderly or very nervous patients who have been on a prolonged debauch are tapered off with two ounces of whisky for four or five doses through the first twenty-four hours. If these patients are excessively nervous it is necessary also to see that they sleep, and the mixture of chloral hydrate twenty grains, morphine one-eighth grain, tincture of hyoscyamus one-half dram, tincture of ginger ten minims, tincture of capsicum five minims, and water one-half ounce, which was recommended before, is the best hypnotic for them. These patients should also have cardiac stimulants such as strychnin and digitalis after the first twenty-four hours, or sooner if they are weak.

The cocainist can be treated like the alcoholic, except that no cocaine is given at any time, and strychnin or some such stimulant must be given from the beginning of the treatment.

To break a man from his tobacco habit alone he should be allowed to taper off the first twenty-four hours, or he can be cut off abruptly and should be treated like the alcoholic.

If the patient is a victim of both morphine and cocaine, then we have a very difficult combination to handle. Usually as the effect of the morphine wears off these patients become delirious, unreasonable, unmanageable and exceedingly ugly. They do not know or realize what they are saying or doing and they make trying patients. Often on the morning following their delirium they will have no recollection of what they have said or done or of any of the suffering which they asserted they were enduring, and will declare that they had a very good night.

As to the results of the treatment, the author says that in his experience 11 per cent. of the morphinists and 12 per cent. of the

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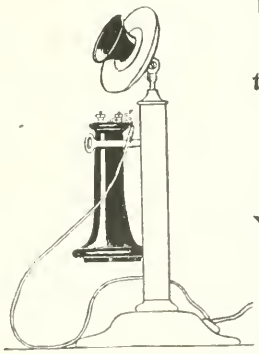

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alcoholists return for treatment. Even doubling this percentage it still gives us 75 per cent. as remaining free from addiction, and of these a very high percentage is known to have stayed free.

In spite of the splendid, in many cases marvelous, results obtained by the Towns treatment, the author does not offer it as a cure of morphinism or as a cure of delirium tremens or chronic alcoholism. It will, however, obliterate the terrible craving that these patients suffer when, unaided, they endeavor to get off their drugs or are made to go through the slow withdrawal without some medication to ease them. Compared with the old methods of either slow withdrawal or rapid withdrawal, it is infinitely superior. Deprivation of a drug is in no way equivalent to elimination of that drug from the body. Deprivation causes suffering; elimination relieves it. But neither this combination of drugs nor any other combination known to man can prevent persons, after they are free from their addiction—be it alcohol or morphine—from going out and repoisoning themselves by taking again the drug which has poisoned them and led them on to their habitual intoxication.

So long as a man lives and just so sure as that man lives, he can never again take a dose of alcohol for any reason whatsoever or in any form whatsoever without the danger of going again to excess. After the patients have been freed from their drug and from the desire for it they are by no means cured of their former habits of life and environment, and, more especially, of their former habits of thought. Many of these patients are psychasthenics, and the problem of their regeneration is one of psychology, to be reached only by psychanalysis and patient rebuilding of their distorted views of life. The quickest method to bring them back to health is to send these patients to some physical trainer in order that their bodies may be put in as perfect condition as their years and the state of their viscera permit. To mollycoddle them and treat them as neurasthenic invalids means simply to increase the liability of their relapse; but to build them up bodily will do more to build them up mentally for the first three to six weeks than any other method of procedure. If at the same time it is possible to treat them psychologically, one will often be well toward the solution of the problem by the time these patients have regained the full vigor of their physical health.

The author insists, however, that the treatment is distinctly a hospital treatment and cannot be carried out successfully in the patient's home. He says that the treatment is one of many details which have to be mastered before it can be successfully carried out. It is a mistaken kindness to alleviate the dread a patient has of taking the treatment by promising that he shall take it in his own home. The alcoholic will do as he chooses, not as the physician desires he shall do, if he is in his own home. The morphinist has hidden in various places supplies of morphine which he can obtain in spite of the strictest vigilance. If these patients are taken to a hospital the treatment can be given by those accustomed to administer it, where the medical attention can be more constant, where the patients will unconsciously exert more self-control than in their own environment, and where the supply of the narcotic can be controlled.

Dr. Richard C. Cabot, professor of clinical medicine at Harvard University, whose critical and discriminating judgment nobody will question, also speaks very highly of the Towns treatment. In a paper which appeared in the *Boston Medical and*

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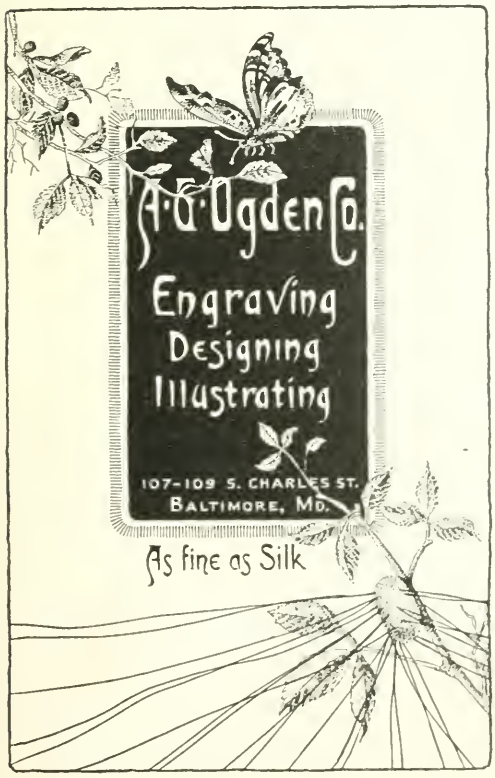

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Surgical Journal for May 11, 1911, he states that he spent several days in Mr. Towns' private hospital, watching the progress of alcoholic and morphine cases at different times of the day and in different stages of their treatment. He was struck, he says, at once by the small amount of suffering undergone by these patients as compared with the much severer suffering with which he had been previously familiar in watching the results of withdrawing morphine either suddenly or gradually.

* * * * * * *

The treatment is now in use in several hospitals, but is, of course, most successfully carried on in the Charles B. Towns Hospital of New York, specially devoted to the treatment of alcoholism and drug addiction. Two important features distinguish this hospital from practically all other hospitals in the United States for any cure of drug addictions. The first feature is that any physician sending in a patient to the hospital is not only at liberty, but is welcome to visit the patient as often as he pleases and to watch every step of the treatment. Not a dose is given secretly; everything is marked on the patient's chart, and the physician knows just what the patient is getting, what the entire treatment has been during his stay in the hospital. The element of secrecy, which is the greatest assets of fakirs and charlatans, is entirely eliminated in this hospital, where everything is open and above board. Another extremely important feature of this in many ways unique hospital is that it charges a flat fee for the complete treatment, payable in advance, and there is therefore no temptation, there *can* be *no* temptation, to keep the patient a day longer, an hour longer than absolutely necessary. It is a well-known fact that when a patient pays for his treatment by the week there is necessarily a temptation, conscious or unconscious, to keep him as long as posible. This is entirely eliminated in the Charles B. Towns Hospital, for the patient paying the same price, whether he stays three days or three weeks, there is naturally no object in prolonging his stay. As to the high ethical manner in which the hospital is conducted, this has been acknowledged by all who have familiarized themselves with its methods and its personnel. The fact that some of New York's foremost physicians, such as Prof. Samuel W. Lambert, Prof. Alexander Lambert, Prof. Smith Ely Jeliffe, Dr. George M. Swift, Dr. James W. Fleming, constitute its consulting staff is in itself a sufficient guarantee of the high ethical plane on which this splendid humanitarian establishment is conducted.

Those familiar with the Charles B. Towns Hospital have given it unstinted praise. It is only necessary to bring Mr. Towns' work to the notice of the entire profession to secure for it the profession's generous and undivided support.

Excerpts.

INTESTINAL OBSTRUCTION

Some interesting studies in intestinal obstruction with the report of a trial of feeding heterologous jejunal and ileas cells to a human being are published by J. W. Draper, New York (*Journal A. M. A.*, Sept. 26, 1914). He remarks that it is hard to understand why obstruction in the duodenal region should be many

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times as dangerous as obstruction in the colon, and remarks on the antemortem symptoms of this condition and those seen after parathyroidectomy. No one, he says, could remain in doubt as to the function of the liver being greatly disturbed in each. He gives tables based on the study of the urine of duodenally obstructed dogs, both before and after a large dose of camphor had been given hypodermatically. The recovery of the glycuronic camphor was made by Tollens' method. In one of the dogs the unusually long duration of life after the operation may indicate high liver resistance or inaccuracy in Tollens' method. Further studies as regards this point are being made. Some experiments were also made to test the hypothesis that water privation was the chief lethal factor after intestinal obstruction. The water percentage in the tissues of dogs was tested under various conditions and the results seem to offer proof that in intestinal obstruction toxemia, the solvent power of water on the toxins and its help in eliminating them from the body may prolong life, and even save it under certain conditions. He has carefully examined the liver, heart and kidneys of a large number of obstructed animals and finds that, barring capillary dilatation, they appear normal. It appears therefore probable that the toxins of intestinal obstruction are eliminated both from the stomach and the colon. The capillary evidence of stomach elimination suggests the possible explanation of the interesting results of feeding duodenally obstructed animals the epithelial cells from the ileum and jejunum of other animals. Dogs thus fed lived nearly twice as long as the controls. Draper could not previously understand this, but now it seems probable that since the toxins are undoubtedly thrown out into the stomach they are directly rendered harmless by the heterologous cells from a healthy animal and thus prevented from re-entering the body. In order to show that fed jejunal and ileac epithelium exercises a special detoxicating power he also fed a control series of dogs on the emulsified cells of liver, spleen, pancreas and muscle tissues. These animals lived but a few hours longer than those that were not fed, but detoxicating action was very slight compared with that of the intestinal epithelium. He has used jejunal and ileac epithelium clinically in two cases: First in a valuable dog and second in the case of a man who had had definite symptoms of obstruction for ten days. The patient was in a desperate condition and it was decided to feed him the emulsion from a dog. Hourly doses were given until the entire duodenal epithelium from two dogs had been given. The patient said it was not "half bad." The pulse improved and the patient lived. The toxemia, Draper concludes, in duodenal obstruction undoubtedly arises from an interference with cellular reactions of the intestinal epithelium, and the evidence is strongly opposed to the bacterial theory of the origin of these toxins. Draper recommends that it be administered in colonic irrigations as well as by the stomach.

THE TONSILS.

J. H. Comroe, York, Pa. (*Journal A. M. A.*, Oct. 17, 1914), makes a plea for the tonsil as an organ whose existence is more often beneficial than otherwise and the sacrifice of which is often needless. There is no doubt that the removal of tonsils is often needed, but he thinks that there is probably too much zeal for

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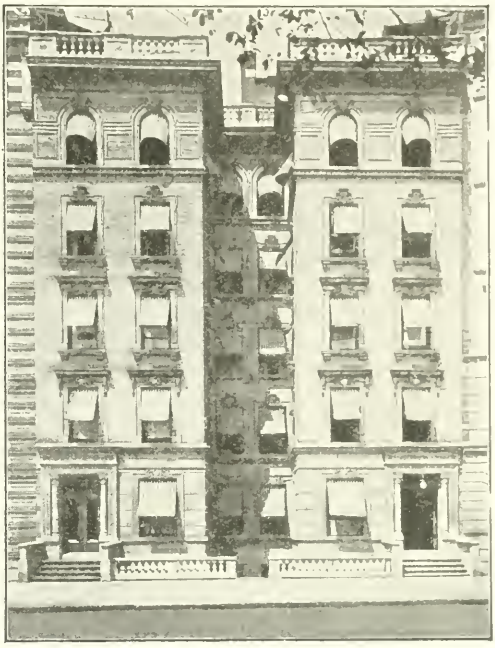

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operation. In 1912 there were in Philadelphia 37,000 recommendations made for the removal of tonsils by the school inspectors, and in the same year in New York it was reported by the inspectors that 30 per cent. of the children had hyper-trophied tonsils. As it was the desire of the department to fix a certain standard as to when operation should be performed, a letter was sent to a number of eminent specialists in nose and throat diseases to obtain their opinions on this point, and it is a significant fact that no two of them exactly agreed. Comroe says the faucial tonsil is a natural organ; some questions as to its physiology have been definitely settled and there is almost uniform agreement as to others, but some points still remain to be solved. From their important anatomic position they would seem like the first line of defense in the throat, and this function is a most important one. Various authors have shown that the tonsils contain a vast number of leukocytes, and Comroe refers to authorities like Adami, Brieger and others to show the defensive action of these bodies. Besides, he adds that it has been conclusively proved by Hodenpyl that they actually antagonize the entrance to their interior of infectious germs. The phenomena of absorption at the level of the tonsils have been studied experimentally by Labbé and Levi-Sirugue, whose findings are in full accord with those of Hodenpyl. The clinical proof of its defensive action has also been abundantly given. In addition to this, the tonsil has other functions, such as the internal secretion believed in by Escet, Shurley and others, its value as a lubricant emphasized by Miller, its effect on the voice and the continued autovaccination asserted to occur by Digby, which causes a certain degree of immunity. While various diseases have been credited to the tonsils as foci from which they can be distributed, Comroe remarks that many of the most important organs of the body are also foci of infection, but their extirpation is not demanded. He therefore protests against operative intemperance as regards the tonsils, which he thinks were placed in the body for good, and holds that their function is physiologic rather than pathologic in the organism.

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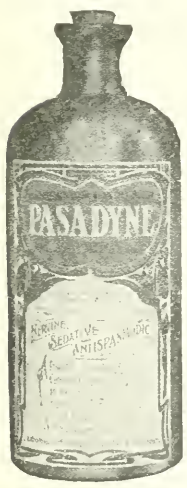

IT is during the spring months more particularly that the physician is called upon to treat patients who, though not ill enough to be in bed, are not at all well. The symptoms are very much like those experienced in malaria, but the causes are entirely different and a different treatment is necessary.

This condition arises from the fact that in the spring the eliminative functions do not present their usual activity owing to the torpor and locked-up secretions which have existed during the winter months, when the skin neglects its duties and the kidneys are overworked.

In such cases the use of Tongaline, either liquid or in one of its tablet forms, will be attended with most beneficial results by promoting the absorptive powers of the various glands which have been clogged and by its stimulating action upon the liver, the bowels, the kidneys and the skin.

Convalescence.

THE secret of prompt recovery from many a serious illness will be found in the prompt institution of tonic treatment. The resulting uplift is often all that is needed to enable the body to re-establish a nutritional balance and develop adequate resistance.

Thus, after the acute diseases, such as typhoid fever, pneumonia, pleurisy, influenza, or those requiring surgical operations, like appendicitis, intestinal ailments, utero-ovarian ailments and so on, the return to health often hinges on the thought and care given to restorative treatment. If a reconstructive like Gray's Glycerine Tonic Comp. is used, the result is rarely, if ever, in doubt. Unlike many remedies used to promote convalescence, Gray's does not whip up weakened forces. On the contrary, it aids and reinforces them by increasing the power and capacity of physiologic processes throughout the body. Thus the appetite is improved, digestive and absorptive functions are activated and the resulting improvement in cellular nutrition insures a notable gain in vitality and strength. Weakness and debility vanish as vitality and strength appear. This tells why "Gray's" is so useful and effective after the acute diseases.

European Soldiers Prevent Infection With Iodine.

IT is noteworthy that reports from the fighting zone in Europe show that a great number of wounded soldiers recover quite rapidly. Much credit is given in the surgical reports to the value of an aqueous solution of iodine, and it is said that every soldier is provided with a vial of solution of iodine, with instructions to use it freely on the slightest wound to prevent infection.

The value of iodine for the prevention of infection in wounds of a local nature has long been recognized. What would seem to be the most rational methods of application, however, have been perfected in this country in three preparations manufactured by Eli Lilly & Co. at Indianapolis.

These products are called Iogens. They consist of a powder, an ointment and an oil, and in their original state they show no iodine content; but on contact with the moisture of the secretions, as in superficial wounds or cavities lined with mucous membrane, they liberate

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small quantities of iodine slowly over an extended period of time. The advantage of iodine preparations in these forms, acting as they do, will readily be appreciated. Some remarkable reports are on file at the Lilly home office which justify the assertion that iodine is a valuable germicide, and that Iogen, Lilly, in its best adapted form, is a decidedly improved method of applying it.

Simple, Efficient and Agreeable.

A GREAT variety of means have been devised for the disinfection of the oral cavity—gargles, sprays, paints, and the compressed antiseptic tabloid—all of which are more or less troublesome, whilst the compressed tabloid is very uncertain, the antiseptics having frequently evaporated by the time the patient uses it. A convenient, effective and pleasant method to bring a reliable antiseptic into constant contact with the pharyngeal and nasal mucosa is to direct the patient to put three drops of Sander's Eucalyptol on a piece of loaf-sugar and allow it to dissolve in the mouth. The volatile nature of Sander's Eucalyptol makes it penetrate every crevice in the oral and nasal cavities, whilst it is also inhaled into the trachea and bronchi, in all of which it exercises a great antiseptic and, by virtue of its aroma, a salutary stimulant effect. In influencal sore throat this treatment is specific, the headache disappearing quickly and rapid general improvement following, especially if supplemented by internal doses of five drops Sander's Eucalyptol in a tablespoonful of water. Tonsilitis, the rheumatic, scarlatinal, diphtheritic and septic sore throats are all amenable to such treatment. In bronchial and asthmatic affections it should be combined with steam inhalations, to which 10 drops of Sander's Eucalyptol have been added. To avoid disappointment, Sander's Eucalyptol should be specified. The common eucalyptus oil, containing as it does all woody extractives, is always irritating and, what is more objectionable, nauseous. Sander's Eucalyptol is prepared from the carefully selected leaves of a certain species, and any admixture of wood is scrupulously guarded against. It has no nauseous effect, no heart depressing action, and is standardized, producing always a constant and definite therapeutic effect.

IT is now pretty well demonstrated that the enteroptosis of children and adults is but a phase—a structural fixing, so to speak, of a general functional habit of ptosis. We are getting away (and rightly so) from the provincial habit of regarding these structural organic deviations as isolated entities, and are coming more and more to recognize their invariable relation to the function-complex of the body; the habitus is becoming a definite and definable quantity in etiology, and even in pathology. No treatment of any form of ptosis, therefore, can be scientific or rational which does not take account of this habitus and provide against it. This is what gives the efficiency and reputation to the now famous Storm binders, that they are constructed with an intelligent regard to the functional exigencies of the case, and designed to prevent and to correct the postural errors which compromise the anatomy and function of the viscera. As long as they display this rationality they will continue to be as popular with the scientific physician as they are at this moment.—*American Journal of Clinical Medicine*, Dec., 1914.

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As a sedative in relieving the extreme nervous irritability and hypercerebration following excessive use of alcoholic drinks, Bromidia (Battle) gives a striking demonstration of its therapeutic powers. A few moderate sized doses and relief is at hand.

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Glyco-Thymoline in Tonsillitis.

A local remedy must fill two requirements—it must be a detergent antiseptic and produce a degree of permanency of effect.

Glyco-Thymoline as a gargle, or used as an atomizer, produces excellent results. It rapidly relieves the dry, congested condition of the mucous membrane by its exosmotic action and its anodyne effect is immediate and lasting.

Glyco-Thymoline is harmless, and if any is swallowed will produce a beneficial effect by breaking up any mucous plugs that may have gained access to the stomach.

Puny Children.

To overcome that unfortunate nutritional state so frequently seen in young children, marked by indifference to both mental and physical effort, pallor, glandular enlargement, and hypersusceptibility to naso-pharyngeal inflammations, no agent is quite comparable to Cord. Ext. Ol. Morrhuae Comp. (Hagee).

Not only does it possess large value as a tissue food, but it is palatable and easily assimilated, for which reasons it is especially desirable for continued use.

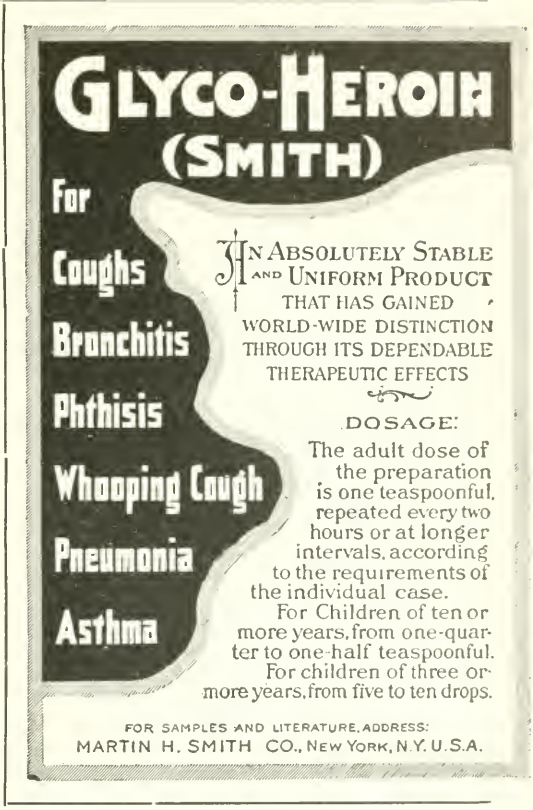
Before and After Childbirth.

Childbirth is always attended by more or less danger and discomfort. Too often the extra burden a prospective mother has to bear overtaxes her nutrition and strength.

The mother who nurses her baby also frequently has to have supportive treatment to enable her to meet the demand placed on her bodily metabolism by the needs of her growing offspring. At such times of stress effective tonic treatment is always required and clinical experience has clearly shown that no remedy is so serviceable from every standpoint as Gray's Glycerine Tonic Comp.

Used throughout the later months of pregnancy and during the puerperium, it gives to the mother the exact stimulus and support needed not only to carry her through a trying period, but to fit her for the still more exacting one of lactation.

Free from contraindication, it is the one remedy that the practitioner can employ before and after parturition with absolute certainty that its effects will never be harmful, but invariably beneficial and helpful.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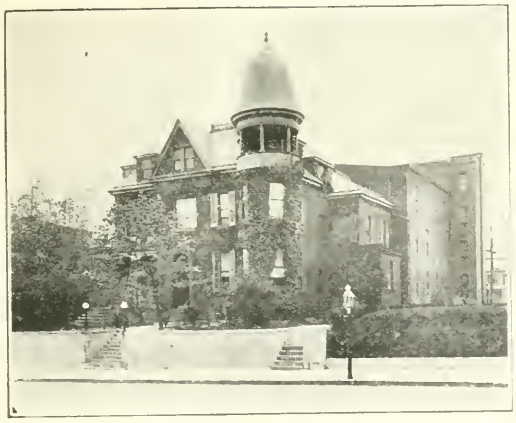

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